THE CLEARING HOUSE

*A journal for progressive junior and senior high-school people*

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# Editorial

The theme of this number of THE CLEARING HOUSE suggests many things that might be said about current school practices. Particularly impressive is the very effective statement by Professor Lindeman in the first article. The impression that the work of the high schools results in scattered and disconnected bits of development among pupils is very widespread. Moreover, the cause of this scattering of impressions is clearly understood by most high-school teachers and administrators. Very frequently these administrators and teachers give expression to their belief that a widely different program of studies would be desirable and that the change that is needed is one that would make it possible for the pupil to integrate his experiences.

There should be in the high-school program opportunity for intensive work over periods of time longer than forty-five minutes in the pursuit of ends that have aroused the interest of the pupil to such an extent that he is ready to devote concentrated effort to their accomplishment. Obviously one mechanical change will be desirable if this condition is to be set up. The length of some recitation periods and study periods should be considerably longer than forty-five minutes. For years educators have been laying great stress on the desirability of so planning courses of study that the interest of pupils will be aroused with the result that they will strive to attain ends that seem to them worth accomplishing. Yet the typical high-school program still entails rapid shifting on the part of the student from one subject to a very different one at the end of every three quarters of an hour. It seems fairly obvious that under these conditions teachers will continue to be limited in their efficiency.

Other factors besides the schedule of periods of the schoolday, of course, enter into the consideration of this problem. Some of the more significant of these factors have been treated effectively, we believe, by the writers of the articles that follow. In more than one case the writer has outlined procedures that have been devised and put into operation for the purpose of stimulating active interest on the part of the pupil and also of relating the activities that he performs in the school to some of the experiences that he inevitably undergoes during the many hours of each day that are spent outside the school.

Mr. Lashly in his article on juvenile delinquency attacks the same problem from another point of view. He voices the dissatisfaction that is felt by hundreds of thousands of parents and others interested in education with the utter failure of the schoolroom routine to produce any perceptible effect on the social and spiritual growth of the children who perform these routine activities.

If one were not so well acquainted with the immense capacity of human beings to deceive themselves into believing that black is white, one would be astonished at the failure of teachers to make an end of the great discrepancy between what is practised and what is believed.

A. D. W.

# Problems of Relationship in Secondary Education

**Eduard C. Lindeman**

EDITOR'S NOTE: *Few of our readers need to be informed that Eduard C. Lindeman is Professor of Social Philosophy at the New York School of Social Work. We are very appreciative of this opportunity to present his analysis of one of the fundamental weaknesses of our secondary schools. It is to be hoped that some of our readers will be stimulated by his suggestion to "examine each principle in the light of possible experimentation" and possibly to undertake "creating wholes by means of interdepartmental discussions and projects."*

A. D. W.

FROM THE point of view of philosophy the most pressing problem of our age is to discover ways of relating parts to wholes. Ours has become a fractional civilization. The separate functions are expertly performed but the specialists who are so able in their limited spheres are wholly incapable of seeing the wholes of which their specializations are merely parts. Consequently, we tend towards a life of disrelatedness. No matter how efficiently the parts are managed, the whole becomes increasingly unmanageable. This is one of the major causes for the rise of dictatorships. A dictator is a symbol for the whole which has already been lost. It frequently happens that an arbitrary ruler, a dictator, is able to revive the sense of the whole, but he achieves this result through methods of fear. The whole which he symbolizes and creates is fictitious. True wholes can only be built by the people themselves, by means of their consent, and through the cumulative relating of their functions.

When the American youth enters upon secondary education he is still aware of certain fundamental relationships which constitute for him trustworthy wholes. He is still a member of a family group. His previous learning has probably come about subject-wise, but he has not yet been taught by academic specialists. He is likely to be conscious of his local community and his neighborhood, and he usually possesses an awareness of his nation, at least on its historic if not on its functional side. He may have begun to think of himself as a prospective specialist, but the chances are that he has not yet made specific vocational choices. (His parents may have sensitized him in the direction of vocational notions since they so frequently assume this to be their main reason for sending the girl or boy to high school.) The important summary point to be made is that the American youth confronting secondary education is likely to be a whole person who thinks in terms of wholes. Once within the high school as pupil, he encounters a specialized impact. He moves from classroom to classroom and from laboratory to laboratory pursuing subject after subject and is taught by specialized teachers who, in turn, were taught by other specialized teachers in colleges and universities. And sooner or later he is asked to choose his course, if not to make actual vocational decisions. By the time he finishes his four-year curriculum he is prepared to continue further specialized studies in higher education, or to enter upon vocational specialization, and by this time he has begun his fractional career. If he ever again recaptures a sense of the whole, it will be the result of accident or reëducation.

The above criticism is commonly heard, and here and there individual high schools have initiated new programs designed to overcome the defects of such premature and warping specialization. But the indictment still holds for the vast majority of high schools throughout the country. In fact, iso-

lated programs of reform, useful as they are, cannot proceed far until teachers, teacher trainers, and school boards begin to revamp their conceptions of secondary education. What is needed is an altered philosophy, a fresh outlook, and not a few haphazard experiments. Such a philosophy may take its point of departure in numerous ways, one of which I am here suggesting; namely, by considering the varieties of relationships which secondary education might foster.

1. During the four years of secondary education the youth may learn to see the relationship between civilization and culture. Civilization consists of "things" which people use in living. Culture represents the way life is lived. Civilization is a combination of mechanical devices leading towards "efficiency." Culture is a set of values leading towards "sufficiency." Civilization is the material environment. Culture is the inner life of persons. Our present uncertainty and bewilderment derives from the fact that our civilization is scientific and modern whereas our culture is medieval and outdated. We have thus far failed to create a culture which is compatible with our scientific achievements.

2. High-school pupils may be taught to appreciate the relationship between science and philosophy. Unhappily, philosophy is seldom taught in secondary schools. In some mysterious fashion it has come about that philosophy is considered to be a subject suited only for higher education. Even there it is frequently taught in such manner as to accentuate its detachment from life. But, wherever science is taught, there philosophy should also be taught. Philosophy is to science what culture is to civilization. The greatest scientists, as distinguished from the mere inventors, have always been philosophers.

3. Students may be taught to appreciate the inherent relationship between one subject and another subject. It frequently happens that pupils do exceptionally well in one subject and fail in others. This fact in itself often leads to one-sided specialization and is frequently reënforced by teacher influence. But subjects are nothing more than arbitrary divisions of knowledge. Knowledge itself is one, not many. Emotional preferences and emotional frustrations involving separate items of subject matter are indicative of faulty patterns of learning.

4. Specialization is not in and of itself an evil; in fact, it is a convenient method for increasing knowledge and enhancing efficiency. What needs to be realized early in life is that the evil consequences of specialization arise from disrelatedness. (I am here using the term "evil" as a symbol for all forms of separation, disconnection, lack of wholeness.) Students may be saved from such consequences if they acquire the habit of viewing the expert in relation to experience. The expert deals with specialized experience; that is, with a sector abstracted from the total rhythm of experience. He bases his activities upon facts, but he is never wholly free from trial and error. The homely day-to-day experience of the man at work is an integral part of life and need not be considered as inferior in quality. Further, if experts ever learn to function socially, this goal will come about through educational methods of functioning which relate experience with expertness at every step of application.

5. Secondary education often produces a variety of "smartness" in youth. Pridefulness in learning is a form of separation. High schools may avoid this danger by emphasizing the ongoing relationships between school and home, teachers and parents. The gap between generations, between youths and their parents, occurs primarily during the high-school period. A high-school faculty which is aware of its conditioning influence will also search for means of relating its pupils with home and parents. This may imply acquainting of elders with the high school's purposes or it may imply joint projects conducted by pupils, parents, and teachers.

6. Because of the organized life of the high school and its embracing effect upon pupils, both in classroom and extracurricular activities, there exists an excellent opportunity for indicating the relationship between individual conduct and social responsibility. So-called socialized projects and socialized recreation and athletics constitute steps in the right direction, but there are innumerable opportunities which are still for the most part overlooked. Altogether too much emphasis is still placed upon individual achievements and grades, examinations and prizes. The effect of this bias is to be seen in the lack of social idealism among our high-school youth. Individual success, regardless of its results upon the mass, is still the aim of most young Americans.

7. As students enter the fields of the various sciences in their high-school curriculum they should at the outset become aware of the relation between the physical and biological sciences on the one hand and the social and psychological sciences on the other. The major prejudices and barriers to social progress cannot be dissolved until people became aware that it is essential to study human nature as well as material nature. Institutions and personalities need to be analyzed as well as matter and movement. We cannot make cultural advances comparable to our amazing achievements in technology until students are as free to dissect society and persons as they are now to investigate "things."

8. There exists a general tendency in American life to overvalue action as contrasted with contemplation. The man of action appears to most Americans superior to the man of reflection. It has thus happened that we have become a nation of activists. What is lacking in our make-up is a sense of the inevitable relationship between action and meaning. This habit is also reflected in our tendency to pursue the short-time rather than the long-time program. But we are now confronted with the necessity of planning our national life, and the long view—and the deeper view—becomes imperative. Pupils should become acquainted early in their educational careers with what may be called the perspectives of life. They should learn how to see situations in terms of time (history), of growth (genetics), of beauty (esthetics), of justice (ethics), and in terms of the total personality (psychology).

9. The principal category which has been employed throughout this essay is "to relate." There is another term which is intimately associated; namely, "to participate." From a sociological point of view these two words are inseparable: in order to relate ourselves, our specializations, and our bits of knowledge, we require the method of participation. The educator's task is to aid pupils in discovering the relationship between knowing and participating. Many learned persons stand hopelessly aside in times of crisis. Their vast accumulations of knowledge are futile equipment because they have never learned how to participate. Participation implies self-expression, not for the mere sake of excellence but, for purpose of revealing and sharing. High-school debates represent the antithesis of participant learning.

The above principles of relatedness implied in modern education will, no doubt, suggest other significant items to my readers. It would be a fascinating exercise to examine each principle in the light of possible experimentation. This task I leave to others. I content myself with one final suggestion; namely, that high-school teachers take the initiative in this new enterprise of creating wholes by means of interdepartmental discussions and projects. We cannot, as teachers, hope to guide students towards wholeness so long as our functional experience is disrelated and nonparticipant.

# Who Are the Delinquents?

**Arthur V. Lashly**

EDITOR'S NOTE: *Arthur V. Lashly is a member of the law firm of Lashly, Lashly, and Miller, of St. Louis. He has had extensive contact with the problem of juvenile delinquency through his connection with the juvenile court as judge and prosecuting attorney, and through his activity as director of State-wide crime surveys in Missouri and Illinois. His frank statement, pointing out the failure of secondary schools to provide adequately for one of the crying needs of society, raises the question, "Is the delinquency to be laid at the door of the boy and girl or of the schools which fail to take preventive measures?"*

A. D. W.

THERE IS eminent authority for the proposition that all men are created equal, but the statement is refuted by the experience of all men. They are in no wise equal when they begin the struggle for existence. In this undeniable truth may be found the problem and the opportunity of public-school education.

I have had no experience as a teacher in the public schools, but have had a considerable amount of practical experience as a judge of the juvenile court, as prosecuting attorney in charge of prosecutions in juvenile courts, and as the director of two State-wide crime surveys, Missouri and Illinois; and, as the result of my observations, I am especially interested in the subject of the causes of juvenile delinquency. Every juvenile delinquent is of public-school age, but very few of them are in school. Had they been in school, they probably would not have got into trouble.

I am intrigued with the idea that the purpose of public-school training is to get our boys and girls into the habit of "figuring out" things for themselves; so to guide their mental operations that they will appreciate the value of doing their own thinking, of relying upon themselves and the judgments that they form, to enable them to feel the thrill and glow of inner satisfaction that comes to the individual when he realizes that he knows more about something than his fellow man—to give them a taste of art and music in order that they may acquire a desire for further consideration of the cultural things of life, to get them started into the ways of good citizenship by courses in government and social science, and to impress upon them the necessity of strong, healthy bodies and clean living.

The imparting of a rudimentary knowledge of these things is what the public schools are for, and the taxpayers of every community in the country are paying every year more taxes for schools than for any other single unit of government in the hope that this is what the schools are doing or will do for their offspring. A considerable portion of the tremendous sums derived from school taxes is wasted, but that is not at all surprising when you consider that school boards are generally made up of laymen. The surprising thing is that they get along as well as they do. But the public-school systems are measured not by the efficiency of school boards but of the teachers and, according to my inexpert opinion, by the results obtained with the pupils who are below the line of average natural ability. This is the class that furnishes the problems for the schools and later for society.

Speaking quite frankly, it has seemed to me that the teaching profession is inclined to follow the line of least resistance with the school population. It is so much easier to teach the A scholars than to spend the weary hours trying to interest the backward pupils in the daily grind of school routine. But the A scholar would be an A scholar whether there was a teacher in the room or not. This small group of intellectuals has little need for the teacher. It is the class of pupils of

subnormal intelligence that demands every ounce of strength and the last vestige of patience and skill possessed by the teacher to keep it sufficiently interested to get something out of the course. This is trite, I know. Every teacher and every school executive is fully aware that these laggards are the problems and burdens of the classroom, and in many of the more enlightened systems new and effective methods are being successfully employed. But by and large, although members of the teaching staffs know their duty well enough, they are not doing it and continue the easy and complacent policy of operating the schools for the intellectuals, and if the dullards don't want to take it, they can leave it.

I have seen too many instances of the results of this policy not to feel that I know something about it. The juvenile courts are full of object lessons. I am persuaded that ways and means must be found, in the interest of the welfare of society, to keep children of public-school age, that is, from six to twenty, in school. But to keep them in school they must be kept interested. It takes real teaching ability and superior qualities of patience, intelligence, and zeal to keep a dull pupil interested when there are so many interesting diversions beckoning him away from school. The public schools generally fail at this point. The critical time in the life of a young person is from fourteen to eighteen, and as to a majority of them at these ages there is no legal way to force them to go to school. But whether they come within the age limitations of the compulsory attendance laws or not, there is no way to force them to remain in school if they do not want to be there. It is altogether a tragedy that in so many cases what these children of subnormal intelligence find in school is at best dry and uninteresting, and at worst is indifference, ridicule, ostracism, and humiliation. No wonder so many of them, in their confused and rebellious state of mind, seek sympathy and fellowship in the dark places.

What are the facts as to eliminations of pupils from public schools at this critical time in their lives? There are about twenty-eight million children between the ages of six to twenty attending the public schools of the United States of which only about two million, or 7 per cent, are in high school. Of those who enter high school, less than 40 per cent finish. The statisticians say that about one out of every twenty children of the ages of thirteen and fourteen, one out of five of the age of fifteen, and one-half of the children sixteen years old are out of school. After sixteen, which is the usual age of emancipation from compulsory attendance, the mortality is appalling. When these children leave school, they constitute a very serious social problem.

Why do they leave school? Statistics on elimination and retardation of public-school pupils are not numerous and such as exist do not seem to be very reliable, but so far as I can gather from such data as there is, at least 75 per cent of eliminations in high school are due to failure. It is my belief, based upon observation, that a large percentage of these are practically driven out. They cannot make the grade. They are the D and F pupils. School no longer has any appeal for them. They simply will not go if they can help it. If there is pressure at home to keep them going, they become truant, and if there is no such pressure they just drift out.

What effort is being made by public-school authorities to keep these less intelligent children in school and off the streets? The problem in some places is being attacked vigorously and skillfully, but I am persuaded that on the whole there is a tendency to view the loss of these pupils as good riddance. This attitude is justified by some who claim that the purpose of the public school should be to devote its energies to the development of scholars who give promise of being able and willing to take a higher education and that it would be an economic waste and wholly futile to spend the time and taxpayers' money necessary to keep these dullards in school and try to make something out of

them. Well, there may be something to that theory but when the total cost of such a policy is considered, I seriously doubt it. The evidence is overwhelming that school children who are regular in attendance and interested in their work seldom have contacts with the law, but any one who has had experience with juvenile delinquents is impressed with the truth of the old saying that an idle mind is the devil's workshop. Children of these ages just naturally gravitate towards each other, and when they are out of school and upon the streets they get together in two's or three's, or in gangs, and find plenty of mischief to occupy their time.

A great many roadside holdups and gun robberies are committed by young desperadoes who form the pattern of their criminal activity in association with other idle boys of public-school age, and these fellows are really dangerous as they kill without compunction or fear where an older and more experienced criminal would run before he would shoot. It is largely from this group that our chronic delinquent juvenile offenders and eventually our most hardened adult criminals are drawn. I do not, of course, say that if a boy is kept in school during public-school age he will not follow a criminal career. But I do say that the training and associations of school life will substantially minimize the chances of such a course.

That there is a definite relationship between crime, including juvenile delinquency, and subnormal intelligence has been rather impressively established by research in this field. A late compilation of statistics is found in a paper by Milton Hyland Erickson,[1] research psychologist of the Wisconsin State Board of Control wherein it is shown by a study of about seventeen hundred inmates of the Milwaukee County House of Correction, the Wisconsin State Prison, and the Wisconsin State Reformatory, which is probably typical, that substantially 50 per cent of delinquents are definitely below normal in intelligence. When it is considered that the other 50 per cent in the normal intelligence group includes forgers, confidence men, and the other so-called intellectual criminals, it leaves the more serious crimes of violence predominating largely in the group of subnormal intelligence.

It is of the utmost significance, it seems to me, that the only thing that can be done with juvenile delinquents is to send them to school. But after they come into the toils of the law, they are not sent to the public schools but to "training schools" and "reform schools." It may be that many of these latter institutions are well equipped to train children for good citizenship, but a great many reform schools are places where children learn how to commit crime. They are taught by older criminals who, although young in years, are old in crime but are, nevertheless, sent to the reform schools where they are thrown into intimate contact with new entrants. After serving a short term (five or six months is the average term) they are graduated and thrown back into society where most of them eventually become confirmed criminals.

If there is only one method that can be devised for offsetting criminal tendencies in youth of subnormal intelligence, namely, to keep them in school, is it not worth while to consider ways and means for keeping them in the *public* schools and out of the *reform* schools? I repeat that this is the problem and the opportunity of our public-school systems. I know that it is so recognized and efforts are being made along a far-flung public-school front to bring about its solution, but until it becomes the generally accepted policy of public-school administration to keep pupils of subnormal intelligence (and by that I mean those who are under the average of scholarship) in school until they have finished high school, by whatever means that can be employed, the public-school system is not doing its full duty to the taxpayers.

[1] "A Study of the Relationship Between Intelligence and Crime," *Journal of the American Institute of Criminal Law and Criminology*, XIX, 4, Part I, February 1929, p. 592-635.

# The Evaluation of Assignments

**Charles W. Knudsen and C. Currien Smith**

EDITOR'S NOTE: *Charles W. Knudsen, professor of secondary education, George Peabody College for Teachers, and C. Currien Smith, director of instruction, Jackson public schools, Jackson, Mississippi, present a thoughtful analysis of one of the most important teaching processes, including a checksheet which should prove as useful to teachers everywhere as it has to the authors of this article.*

A. D. W.

THE EVALUATION of teaching includes among other considerations an evaluation of the assignment as an important means of directing and stimulating learning activity. Evaluation of the assignment may provide a basis for the improvement of teaching to the extent that an evaluation reveals weaknesses in an important directive procedure. The point of view expressed in the foregoing statements implies an acceptance of systematic teaching as a desirable method of directing pupils in learning. By systematic teaching is meant that type of directive procedure in which one or more definite objectives of pupil activity have been specified by the teacher, in which definite provision has been made for the stimulation and direction of pupil activity the outcome of which is the specified objective, and in which adequate provision has been made for estimating the products of pupil activity and for diagnosing pupil difficulty.

In this article the writers are attempting to describe a plan for use in evaluating the assignment. Briefly stated, this plan involves: (1) The acceptance and selection of certain "principles," "rules," or "standards" as guides to the user in describing points of view from which the assignment may be evaluated, (2) a description of the plan, and (3) an illustration of the manner in which the plan may be used. The critical reader may raise a number of questions concerning the presentation which follows. First, he may ask the question, "Why accept systematic teaching as a point of departure?" Second, he may inquire, "How valid is the plan proposed?" Third, he may ask, "How accurate are the appraisals of assignments made by the plan proposed?" He may also raise a very pertinent question about the evaluation of teaching which does not go into the matter of deciding first of all on the desirability of a teacher's objectives. Space will not permit an adequate defense of the writers' positions with respect to all of these questions. With respect to systematic teaching they would say that many years of experience of many teachers with systematic methods have yielded results that may be accepted as desirable. Claims for the validity of the method proposed are based on the fact that experts in the field of methods have written extensively in support of the view that the assignment is important and that it may serve its purposes better when certain conditions with respect to it are observed. If it be assumed by the reader that the writers have correctly stated the views of experts regarding the assignment in the selection of principles of assignment making, then it may be said that such claims to validity as the plan proposed may possess rest on the judgment of competent persons.

## PRINCIPLES OF ASSIGNMENT MAKING

1. *The assignment should be compatible with the teacher's objectives.* The term objectives as used in this statement refers to the habits, skills, knowledge, attitudes, ideals, etc., which the teacher would cause to be produced in the learners under his direction. For the assignment to be compatible with the teacher's objectives, it must stimulate the types of learning activity which result in outcomes approximating the objectives. To observe this principle means that a teacher

must make use of a psychological relationship obtaining between a stimulus and an activity through which the objective specified is reached. Far too much teaching is indifferent to this relationship. Such indifference may be traceable to a lack of knowledge, or it may be due to the fatuous belief that all is well with teaching as long as pupils are active.

2. *The assignment should be definite.* This statement means that in order for an assignment to become operative as a stimulus to learning activity it must be stated with sufficient definiteness that its meaning is understood by those to whom it is given. The manner in which this principle should be applied will depend on a number of considerations which should be indicated. It is often said that an assignment which consists of nothing more than a request "to study certain pages from a text" is not permissible in good teaching. Whether this statement is true or not depends on the extent to which certain study habits and methods of work are possessed by the pupils to whom the assignment is given, as well as upon the pupils' initiative, self-reliance, and independence. In general, immature students are not so equipped with the abilities for independent study that a simple request "to study" will yield educational results of a high order. On the other hand, the supervisor who applies this principle must be guided in his judgments by some of the considerations mentioned above. If we were really very much concerned with making students intellectually independent by the time the secondary-school period of training is completed, we should look with disfavor on assignments made at the upper reaches of the secondary school that are as definite and as detailed as those made when the student enters the secondary-school period.

3. *An assignment should present a challenge to the pupil.* It is admittedly difficult to determine with any degree of accuracy the amount of challenge a given assignment presents to a given pupil. This much may be said however, a challenging assignment should cause students to exert themselves over a period of time the length of which will in some measure be determined by the policy of the school with respect to homework, or, if study is directly supervised, the study schedule followed in the school the pupil attends. It ought not to be possible for a bright pupil to do acceptable work without study on assignments made.

4. *Group assignments should be adapted to the abilities, capacities, interests, and needs of the pupils composing a class.* The Ninth Yearbook of the Department of Superintendence contains a good summary of suggestions for the teacher who would vary his assignments according to the differences among the pupils of a class. Space will permit only a few suggestions in this place:

a) Provision in assignments for bright pupils with more opportunity for rapid generalizations, more opportunities for exercise of initiative, more reading, more applications of knowledge to new situations, more opportunities to develop a sensitivity to intellectual and aesthetic elements in a situation, more opportunities for observation, etc.

b) Provisions for the dull pupils of opportunities for larger amounts of repetition, reading material of carefully selected vocabulary, very definite directions for performance of tasks, greater amount of concrete materials, etc.

5. *Assignments should relate to the attainment of objectives which in most instances the pupil can be led to understand are abilities to meet actual life situations rather than abilities to meet artificial situations created by a teacher.* The idea in this statement is sometimes expressed by the suggestion that the assignments relate to a "large unit of learning." Because of considerable confusion in the minds of teachers and supervisors regarding the meaning of the term "a unit of learning," the writers' experience with this principle has led them to suggest the wording as given.

6. *Assignments should include learning exercises that stimulate all of the essential types of learning activities necessary to the attainment of the objectives of the assign-*

*ment.* Thus it should be remembered that drill and practice lead mainly to the engendering of habits; that generalizing in its several forms is essential to the acquisition of knowledge; and that effective experiencing is prominent in the acquisition of attitudes, ideals, tastes, and appreciations. It will be evident to any one that the emphasis in a given assignment may relate almost entirely to one or more of these types of outcomes to the apparent neglect of one or more of the others. One who evaluates assignments will, of course, bear in mind that a teacher may be perfectly justified in such a procedure. The supervisor will, however, want to make sure that a teacher is not neglecting to assign one or more types of learning exercises for the purpose of stimulating the types of learning activities essential to the attainment of the objectives specified by the teacher.

*7. In schools where homework is required assignments should be made in such manner*

ASSIGNMENT CHECK SHEET

Teacher_____ School_____ Assignment made_____ (Date)

Subject_____ Grade_____ Period number_____

| *Principles* | *Scale Values* | *Score* | *Points Not Applicable* |
|---|---|---|---|
| 1. Compatibility with objectives | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 2. Definiteness | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 3. Challenge | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 4. Individual differences | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 5. Large units | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 6. Balanced learning activity | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 7. Balanced work | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 8. Study hints | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 9. Exploration | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| 10. Motivation | 0 1 2 3 4 5 6 7 8 9 10 | ( ) | ( ) |
| | *Totals* | _____(a) | _____(b) |

Total applicable points assigned..... _____ (a)
Total possible applicable points (100-(b))..... _____ (c)
Score ((a) divided by (c))..... _____ (d)

*that a balance is preserved between homework and schoolwork.* If there is an attempt to direct all of the pupil's study while he is in school, then this principle would relate to the balance between learning exercises during the formal recitation period and those assigned for study periods, whether the latter be attempted in the teacher's classroom or in a special study room.

8. *Assignments should include specific directions for study, emphasis on most important points, direction of attention to obstacles to be avoided, and instructions for efficient methods of finding materials, sources of information, and references.* Obviously the extent to which this principle applies will depend on the degree of independence already reached by a class. Pupils should not come to depend entirely upon the teacher for direction to materials with which they have had ample opportunity to become acquainted.

9. *Assignments should be preceded by, and based upon, a survey of the relevant experiential background of the pupils, which should constitute an introduction to the work that is to follow.* In applying this principle, as has already been intimated in the case of other principles, the supervisor would not expect the assignment of every day's work to include provision for exploration. Teachers very properly plan their work in some instances so that one assignment with adequate provision for exploration covers the work of several days. Thus, if a teacher were using the unit plan of teaching advocated by Morrison, he certainly would not plan daily assignments in such manner that each one contained provision for exploration.

10. *Assignments should be made in such manner that pupils' incentives for study are based upon a desire to achieve worth-while goals rather than upon a desire to avoid punishment or to receive the commendation of the teacher in the form of high marks or complimentary statements.* Teachers use many different ways to motivate the doing of assignments. If pupils have a healthy respect for the teacher, a statement from the latter about the importance of the outcomes resulting from doing the assignment is often effective. Often the teacher can stress the immediate utility of the ability that grows out of doing the assignment. Or the teacher may show to the class the need they have for the ability. Occasionally the teacher capitalizes some worthy pupil interest in motivating the doing of an assignment. In case the teacher is especially adept in measuring the outcomes of learning activity, motivation may be secured by the old method of emphasizing rivalry and emulation, though it should be stated that few educational theorists have great respect for this method of motivation.

In order to afford a convenient means of recording judgments of assignments based on the several principles presented above, the form on page 396 is used.

The writers have made rather wide use of this device for two distinct purposes: (1) In directing students in education courses how to prepare and evaluate assignments; (2) in helping teachers to improve the assignments they are using with their classes. Directions for its use are simple. A statement of the assignment a given teacher uses with a class is obtained, after which the appraiser expresses a judgment as to the applicability of each of the given principles as a basis for appraisal of the assignment. He next expresses a judgment of the extent to which an assignment meets the requirements of an excellent assignment in so far as each one of the selected principles applies. This judgment is recorded on a ten-point scale. There are thus as many scale values assigned as there are principles that apply to a given assignment. Suppose, for example, that principles 5 and 8 do not appear to apply to an assignment submitted by Miss X. It is the appraiser's judgment that each of the remaining eight do apply. If Miss X's assignment is judged to be exceptionally good on the basis of the eight applicable principles, her score on that assignment is 80 divided

by the total possible points that may be assigned on eight characteristics (80), or 1.00. Suppose, however, that the judge assigns the following on each of the eight characteristics: 1, *7;* 2, *9;* 3, *8;* 4, *7;* 6, *9;* 7, *8;* 9, *7;* 10, *9*. The total score assigned then becomes the sum of the scale values assigned (64) divided by the total possible points (80), or 0.80.

To determine the reliability of ratings of assignments made by use of the device suggested above, a list of 39 assignments from a group of more than one thousand were chosen in a manner to ensure their representativeness of the larger number, and then rated by one judge. Four months later, the same list of assignments were rated again by the same judge. The coefficient of correlation obtained by correlating the two sets of ratings was $0.925 \pm .012$. Two groups of graduate students of 40 each were trained in the use of the device for appraising assignments. They were then asked to rate a group of 39 assignments. The coefficient of correlation obtained by correlating the average scores assigned by one group with average scores assigned by the other was $0.94 \pm .03$. It should be noted in this connection that the method used to indicate reliability of rating in the second instance has a marked limitation; namely, that inconsistencies in rating among members of either group tend to be obscured when the average of ratings of any one assignment is taken as the rating for that assignment. On the other hand, if the scheme used for rating assignments were entirely unreliable, it is probable that average ratings on each assignment would be the same. As a further study of the reliability of the ratings made by judges, five trained persons were instructed to rate eleven assignments. The ratings assigned by each judge were correlated with the ratings assigned by every other judge, thus obtaining ten coefficients. These ranged from $.34 \pm 18$ to $.87 \pm .05$.

The writers feel that the main value of the device does not lie in the extent to which it enables a supervisor to quantify his judgments of assignments. Its value lies rather in its use as a guide to judgments of assignments and as a practical means of directing teachers' attention to significant characteristics of assignments. Its use with a teacher (who has the advantage of knowing beforehand just what it is that a supervisor is attempting to do with it) affords both teacher and supervisor an opportunity to bring to a supervisory conference some very pertinent data about teaching, and likewise affords an opportunity for a conference that has point. Samples of assignments scored by the teachers themselves may be formulated as a supervisory bulletin that is exceedingly helpful to teachers.

### An Illustration of the Use of the Check Sheet

*Assignment* *Subject:* English *Grade:* 10-1

Topic: The Punctuation of Adverbial Clauses

Immediate objective: To provide the activity necessary to ensure that each pupil in the class punctuates adverbial clauses correctly

Apperceptive basis: Ability to recognize adverbial clauses

Assignment: (based upon a diagnostic test and upon failure of students to punctuate adverbial clauses correctly in their themes)

*Problem 1.* What is meant by an introductory adverbial clause? *See* text, p. 250.

*Problem 2.* How are introductory adverbial clauses punctuated? *See* text, p. 250.

*Problem 3.* What kind of clause is a nonrestrictive clause and how can you recognize such a clause? *See* text, pp. 250-251.

*Problem 4.* How are nonrestrictive clauses punctuated? *See* text p. 251.

*Problem 5.* What is a restrictive clause, and how can you distinguish it from the nonrestrictive clause? *See* text, p. 251.

If the answer to each of these five problems is not clear after studying the text, read one of the supplementary texts on our shelves on these questions.

References: Tanner, pp. 174-176; Hermans, pp. 110-112.

Activity: 1. Copy the twenty sentences in exercise 11 on page 251-252 in your text.

2. Find the adverbial clause in each sentence.
3. Decide whether the clause is restrictive or nonrestrictive.
4. Punctuate the sentence correctly and be able to justify each punctuation mark.

Additional activity: After the above assignment has been mastered, each student who is able to do so is asked to take five sentences of his own composition, each sentence containing an adverbial clause, and punctuate them correctly. All work is to be brought to class ready to be handed in. The work will be corrected in class and other practice work will be provided for classwork in order to ensure mastery in the punctuation of adverbial clauses.

Study begun in class: Three sentences containing adverbial clauses, introductory, restrictive and nonrestrictive, were studied and punctuated in class and explanation given on how to proceed.

Motivation: 1. Why should you try to master this assignment?

"The mastery of this assignment is very necessary to any person who expects to write well. If you master it now, it will be an asset to you throughout your high-school, college, and life careers."

In your theme work for this week you will be graded on your use and correct punctuation of adverbial clauses. If some students fail to master this assignment in the time allotted, those who do master it will be permitted to work on something else or to read a book while the slower students master it.

*Evaluation of Assignment*

1. Compatibility with objectives: (9)
2. Definiteness: (9)
3. Challenge: (8)
4. Motivation: (8)
5. Exploration: (9)
6. Study hints: (8)
7. Balanced learning activity: (7)
8. Large units: (-)
9. Individual differences: (7)
10. Balanced work: (8)

Total points assigned .....73

Possible applicable points .....90

Score .....81

This is an excellent assignment, well organized and presented. The learning exercises are compatible with the objective. However, a better statement of the objective would have been, "Ability to punctuate restrictive and nonrestrictive adverbial clauses correctly." The assignment is definite and challenging. Pupils are required to give evidence of knowledge in applying rules to new situations. Immediate utility is stressed and the assignment is further motivated by definiteness and challenge. A fine type of exploration is exemplified in the use of diagnostic tests. Study hints are given in the form of activities to be engaged in and study was begun in class. Learning activity is fairly well balanced although more stress might have been placed on a "pattern of accuracy" or "appreciation of good form in composition and rhetoric," the more general objectives of the lesson. Additional work was provided for the brighter pupils, though it does not appear that sufficient discrimination has been used in devising exercises for brighter pupils. (Providing for individual differences is a continuous process and is not very effective unless followed up for different pupils or groups of pupils throughout a course.) The assignment was probably pretty well balanced in regard to classwork and outside work.

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# Pupil Ranking of Subjects

**Russell R. Spafford**

EDITOR'S NOTE: *Russell R. Spafford is director of science in the public schools of Tulsa, Oklahoma. He has developed a plan by which high-school teachers may watch and study certain evidences of the rise and fall of the results of instruction with profit to themselves and their pupils. We hope that some of our readers will use this "barometer" and send us the results of their study.*

A. D. W.

IF IT WERE POSSIBLE to place in the hands of a teacher some sort of barometer which would rise and fall accurately according to the effects of her own teaching efforts, the study of pupils, methods, and objectives would soon take on a new and lively interest. In so far as *a pupil's free ranking of the subjects in his daily program* can be used as a crude barometer which is more or less sensitive to the effects of teaching, the teacher can easily secure impartial information

SAMPLE FORM[1]

TO THE PUPIL: This form is so easy to understand that it will not be necessary for me to explain it to you. I shall ask some one in the class to collect the slips when they are filled out. Do not sign your name. Write clearly.

I—*My daily program this semester has been as follows:*

Period 1 .....
Period 2 .....
Period 3 .....
Period 4 .....
Period 5 .....
Period 6 .....
Period 7 .....
Boy or Girl? .....
I am classified as a .....
Sophomore, Junior, or Senior

II—*According to the good which I believe I have been deriving from them this semester, the subjects in my daily program rank as follows: (Omit study periods. Treat combination subjects such as music and physical education as one.)*

..... with me, ranks 1st or highest
..... with me, ranks 2d
..... with me, ranks 3d
..... with me, ranks 4th
..... with me, ranks 5th
..... with me, ranks 6th
..... with me, ranks 7th or lowest

[1] The reliability of this study can be increased by giving each pupil the freedom of an Australian ballot. Walking about among the pupils, collecting their slips, and discussing either the purpose or the results will hamper free, independent thinking. The "barometer" should be set to register quietly each pupil's feeling regarding his own experiences.

from her classes which will throw light on many problems relating to pupils, methods, subject-matter content, and the goals of education.

### COLLECTING THE DATA

Following is a form which has been helpful in gathering information regarding pupil-ranking of subjects at or near the close of a semester's study. This blank form can easily be modified to fit different conditions, and different problems.

dium, and low positions which a pupil would actually assign to the different subjects in his program. Normally, he would distribute the different subjects irregularly along any elaborate scale which might be provided.

### CALCULATING THE RESULTS

To average the rankings which a class of thirty to forty has given to any particular subject requires from ten to fifteen minutes' time. The first step is to give each pupil's

TABLE I

TRANSLATING THE PERCENTILE RANK INTO A SIMPLE FIGURE

| *Seven Subjects* | | | *Six Subjects* | | | *Five Subjects* | | | *Four Subjects* | | | *Three Subjects* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Order of ranking | Percentile rank | Simple figures | Order of ranking | Percentile rank | Simple figures | Order of ranking | Percentile rank | Simple figures | Order of ranking | Percentile rank | Simple figures | Order of ranking | Percentile rank | Simple figures |
| 1st | 93 | 9.0 | 1st | 92 | 9 0 | 1st | 90 | 9.0 | 1st | 87 | 9.0 | | | |
| 2d | 79 | 8.0 | 2d | 75 | 8.0 | | | | | | | 1st | 83 | 8.0 |
| | | | | | | 2d | 70 | 7.0 | | | | | | |
| 3d | 64 | 6.0 | 3d | 58 | 6.0 | | | | 2d | 62 | 6.0 | | | |
| 4th | 50 | 5.0 | | | | 3d | 50 | 5.0 | | | | 2d | 50 | 5.0 |
| 5th | 36 | 4.0 | 4th | 42 | 4.0 | | | | 3d | 38 | 4.0 | | | |
| | | | | | | 4th | 30 | 3.0 | | | | | | |
| 6th | 21 | 2.0 | 5th | 25 | 2.0 | | | | | | | 3d | 17 | 2.0 |
| 7th | 7 | 1.0 | 6th | 8 | 1.0 | 5th | 10 | 1.0 | 4th | 13 | 1.0 | | | |

### NUMERICAL VALUE OF RANKINGS

In order to study the data collected by means of such a form as is set forth above, it is necessary to attach a numerical value to the rank which a pupil assigns to any particular subject in his program. When all programs are of equal length (equal number of subjects or periods) the simple numbers (1st, 2d, 3d, etc.) which appear on the blank form may be used for this purpose. When the programs are of different lengths, it becomes necessary to express the rankings in percentiles or figures closely related to them. The following table shows how one may arrive at simple percentile figures which are easy to add and average. However, it should be borne in mind that these figures do not accurately represent the relatively high, me-

ranking of the subject in question a simple ranking number (1.0 to 9.0). Second, add these numbers and divide the total by the number of rankings which have been added. For example, if 35 rankings of algebra total 224, the average ranking by this method of calculating will be 224 divided by 35 or 6.4. This indicates that the pupils of this particular class rank algebra well above 5.0, which is the middle point of this scale. Many teachers prefer arbitrarily to call the middle of the scale 100 instead of 5.0. Since 100 is twenty times greater than 5.0, an average ranking such as 6.4 can be converted into this new scale of figures by multiplying it by twenty ($20 \times 6.4 = 128$). The advantage here lies in the fact that it is somewhat easier to hold the middle or pivotal point in mind as 100 than it is to hold it in mind as 5.0.

TABLE II

DO PUPILS OF THE SENIOR HIGH SCHOOL RESPOND TO DIFFERENCES IN THE EMPHASIS WHICH TEACHERS PLACE ON THE HUMAN FACTOR? *

| Year and Semester | | Subject | Number of pupils ranking the subject | Ranked above (+) or below (−) the pivotal point, 100 | Remarks |
|---|---|---|---|---|---|
| | | | *Teacher A* | | |
| 1st year | 1st Sem. | Botany | 148 | −2 | Emphasis on wild plants and their classification |
| | 2d Sem. | Botany | 158 | −4 | Emphasis on wild plants and their classification |
| 2d year | 1st Sem. | Botany | 170 | −6 | Emphasis on wild plants and their classification |
| | 2d Sem. | Botany | 154 | +8 | *Emphasis on economic plants—lawn grasses, garden flowers, bacteria, molds, etc. |
| 3d year | 1st Sem. | Biology | 164 | +8 | *First attempt to teach this course as prepared by another teacher |
| | 2d Sem. | Biology | 152 | +16 | *Biology with emphasis on the human factor |
| 4th year | 1st Sem. | Biology | 162 | +10 | *Biology with emphasis on the human factor |
| | 2d Sem. | Biology | 150 | +11 | *Biology with emphasis on the human factor |
| | | | *Teacher B* | | |
| 1st year | 1st Sem. | Zoölogy 4/5<br>Physiology 1/5 | — | — | Error made in collecting the data |
| | 2d Sem. | Zoölogy 4/5<br>Physiology 1/5 | 170 | −2 | Emphasis on wild animals and their classification |
| 2d year | 1st Sem. | Zoölogy 4/5<br>Physiology 1/5 | 145 | 0 | Emphasis on wild animals and their classification |
| | 2d Sem. | Zoölogy 4/5<br>Physiology 1/5 | 178 | +8 | *Emphasis on domestic animals (The human factor) |
| 3d year | 1st Sem. | Physiology 1/2<br>Psychology 1/2 | 157 | +15 | *Emphasis on the physical and mental welfare of people |
| | 2d Sem. | Physiology 1/2<br>Psychology 1/2 | 185 | +14 | *Emphasis on the physical and mental welfare of people |
| 4th year | 1st Sem. | Physiology 1/2<br>Psychology 1/2 | 158 | +17 | *Emphasis on the physical and mental welfare of people |
| | 2d Sem. | Physiology 1/2<br>Psychology 1/2 | 179 | +14 | *Emphasis on the physical and mental welfare of people |

* Each teacher's four-year record has evolved from the experiences of more than one thousand pupils whom she has actually taught for at least one semester. (*See* records A and B, Table II, and also records C to G, Table III.)

### SIGNIFICANCE OF PIVOTAL POINT

Suppose that 35 pupils in an algebra class in a certain room in a twenty-room high school are ranking the subjects in their daily programs. If each pupil has six class periods daily, this particular class is giving consideration to 210 subject rankings which involve nearly all parts of the school program open to these pupils. To the extent that a fair sample of the school's program is involved in these 210 considerations, the pivotal point expressed as 100 must be close to the average ranking of all the different periods of work offered in the school.

It stands to reason that as the quality of the school program is improved this pivotal point of 100 will come to mean more and more even though, as a figure, it does not change. However, this characteristic of the pivotal point will seldom seriously affect the results of any study which a teacher may desire to make of the ranking of subjects. She can easily satisfy herself as to where her work stands with reference to the pivotal point and, what is probably more important, she can check regularly to determine whether or not the pupil rankings of her subjects are responding to her attempts to improve.

### STUDYING THE RESULTS

1. *Do objectives influence this "barometer?"* Any teacher who can look back over her teaching experiences and see the trends of results as clearly as they are displayed in parts A and B of Table 2 will soon lose the feeling that it is extremely difficult, if not impossible, to bring the general objectives or goals of education to earth in the classroom. Usually, there is nothing more stimulating to a teacher than to see impartial evidence that her efforts are definitely and favorably affecting the thought and actions of pupils. One of the great difficulties with teaching is that one seldom has an opportunity to observe the trend of results. If the trends were easily visible, we might learn more rapidly than we do how to influence them favorably with a minimum of waste effort.

It will be observed in the case of Teacher A that between the beginning and the close of a four-year period this "barometer" rose from approximately —4 to approximately +13, a difference of 17 points. This experience, and also that of Teacher B, is interesting for the reason that the transition from placing emphasis on subject matter to placing emphasis on the needs of pupils took place gradually over a four-year period. The importance of this change is probably greater than the expression "17 points" would lead one to believe. Suppose that the cost of one year's schooling per pupil, per class period, is $15 throughout this four-year period, and that "17 points" are equivalent to a 17 per cent increase in the value of instruction. This increase in educational returns to 150 pupils, expressed in dollars, might amount to as much as $450 annually or what would be the return from a capital investment of $9,000 drawing 5 per cent interest. There can be little doubt but that improvements of this kind mean much to society.

2. *Is this "barometer" influenced by teacher adjustment to subject and school?* Teaching, like any other human activity, has its ups and downs. When Teacher C attempted to teach a course in biology as prepared by another, her "barometer" dropped precipitously and as soon as she returned to her own way of teaching it rose. (*See* record of Teacher C, second year, first semester, Table III.) The "barometer" of Teacher F recorded a similar drop when she attempted to teach a course in chemistry prepared by another. However, such was not the case when Teachers A and E attempted similar changes.

It commonly requires a semester or two for a new teacher to become adjusted to her schedule and her school. Indications of this will be found in the records of Teachers D and G. While we frequently speak of the teacher adjusting herself to the school, there

TABLE III

DOES THIS "BAROMETER" RESPOND TO DIFFERENCES IN TEACHER ADJUSTMENT AND TEACHER LOAD?

| Year and Semester | | Subject | Number of pupils ranking the subject | Ranked above (+) or below (−) the pivotal point, 100 | Remarks |
|---|---|---|---|---|---|
| | | *Teacher C* | | | |
| 1st year | 1st Sem. | Biology | 137 | +4 | Taught according to her own methods |
| | 2d Sem. | Biology | 149 | +6 | Own methods |
| 2d year | 1st Sem. | Biology | 161 | −4 | *Taught the course as prepared by another teacher |
| | 2d Sem. | Biology | 166 | +4 | *Returned to her own methods |
| 3d year | 1st Sem. | Geography | 185 | +8 | *Americas |
| | 2d Sem. | Geography | 179 | +4 | *Europe and Asia |
| 4th year | 1st Sem. | Geography | 134 | +3 | *Europe and Asia |
| | | *Teachers D and E* | | | |
| 1st year | 1st Sem. | Chemistry I Teacher D | 108 | +6 | *A new teacher in the department |
| | 2d Sem. | Chemistry I Teacher D | 125 | +14 | *Prepared her own worksheets for Chemistry I |
| 2d year | 1st Sem. | Chemistry I Teacher D | 161 | +16 | Used her own worksheets revised |
| | 2d Sem. | Chemistry I Teacher D | 153 | +12 | Used her own worksheets. Trained a new teacher, (E) |
| 3d year | 1st Sem. | Chemistry I Teacher E | 149 | +14 | Teacher D revised Chemistry I worksheets during the summer. Used by Teacher E this semester |
| | 2d Sem. | Chemistry II Teacher E | 153 | +6 | *Teacher E prepared worksheets for Chemistry II as she taught |
| 4th year | 1st Sem. | Chemistry I Teacher E | 140 | +19 | Teacher E revised worksheets for Chemistry I |
| | 2d Sem. | Chemistry II Teacher E | 165 | +14 | *Teacher E improved her teaching of Chemistry II |

TABLE III (*Continued*)

| Year and Semester | | Subject | Number of pupils ranking the subject | Ranked above (+) or below (−) the pivotal point, 100 | Remarks |
|---|---|---|---|---|---|
| | | | *Teacher F* | | |
| 1st year | 1st Sem. | Chemistry | 140 | +16 | Using her own methods |
| | 2d Sem. | Chemistry | 111 | +4 | *Tried a new course prepared by another teacher |
| 2d year | 1st Sem. | Chemistry | 140 | +18 | Using her own methods |
| | 2d Sem. | Chemistry | 152 | +8 | *Own methods. Extra duties |
| 3d year | 1st Sem. | Chemistry | 144 | +9 | *Own methods. Extra duties |
| | 2d Sem. | Chemistry | 173 | +2 | *Own methods. Heavy load. Heavy outside duties. Serious illness in the family. |
| 4th year | 1st Sem. | Chemistry | 152 | +10 | Own methods. Using worksheets which she helped to prepare |
| | 2d Sem. | Chemistry | 154 | +16 | Own methods. Using worksheets which she helped to prepare |
| | | | *Teacher G* | | |
| 1st year | 1st Sem. | Biology and Geography | 152 | +26 | *A new teacher. Given a poor teaching schedule |
| | 2d Sem. | Biology and Geography | 116 | +20 | *Given a poor teaching schedule |
| 2d year | 1st Sem. | Biology | 172 | +34 | Prepared worksheets for biology during the summer. First use |
| | 2d Sem. | Biology | 165 | +42 | Using own worksheets |
| 3d year | 1st Sem. | Biology | 156 | +38 | Recovering from a summer's illness |
| | 2d Sem. | Biology | 179 | +48 | Using own worksheets, improved |
| 4th year | 1st Sem. | Biology | 166 | +41 | Using own worksheets as improved |
| | 2d Sem. | Biology | 157 | +49 | Using own worksheets as improved. Great emphasis on human values. |

*See note under Table II.

TABLE IV

CHANGING CONDITIONS IN A DEPARTMENT MAY INFLUENCE THE PUPIL-RANKING OF SUBJECTS

| Year (Two Semesters) | Number of science teachers in the high school | Number of rankings of science subjects studied | Average number of rankings per teacher | Average ranking of science subjects: middle or pivotal point, 100 | Remarks |
|---|---|---|---|---|---|
| First | 10.4 | 2,844 | 273 | 110.0 | Texts and laboratory manuals. Few mimeographed, objective tests. Many oral directions given by teachers. |
| Second | 11.2 | 3,559 | 318 | 116.0 | Texts. Guide sheets covering more than laboratory experiments. Increased use of printed, objective tests. Fewer oral directions to pupils. |
| Third | 12.2 | 3,967 | 325 | 113.8 | Teacher load in science increased out of proportion to the average in the school. Geography classes were suddenly expanded. The course in geography was not well adapted to the needs of the pupils. |
| Fourth | 13.3 | 4,075 | 306 | 115.4 | Teacher load lightened. Gaining experience with geography. Many guide sheets revised. Better use of mimeographed helps. |
| TOTAL | | 14,445 | This is the total number of rankings of science subjects in one high school, studied in eight semesters | | |

is evidence in the record of Teacher G that the school also adjusts itself to the teacher.

Teacher E, who began teaching in the system the first semester of the third year, apparently avoided this adjustment period by reason of having passed through it while doing practice teaching under Teacher D. However, when Teacher E entered on the new task of organizing and teaching Chemistry II, the "barometer," at the close of the semester, recorded a drop and a year later it rose to about normal. If these experiences of teachers tempt us to point out any hard-and-fast rule, the temptation can easily be overcome by studying the effects which similar factors had on the records of Teachers A, B, and C.

3. *Is this "barometer" influenced by teacher load?* During the four-year period covered by this study, teacher load in the high school increased rapidly. It, no doubt, affected the average quality of instruction in the school, but the "barometer" which we are using does not record general changes of this kind. The condition of the school as a whole, whatever it may be, is the point of reference. On the teacher's "barometer" we have arbitrarily labeled this slow-changing, unknown point 100.

There is good reason to believe that changes in the total load being carried by Teacher F ran enough out of line with the changes in the average total load of the school to influence the pupil rankings of her particular subject. As she took on extra

school duties, and enrollment in her classes rose above the average for the school, her "barometer" readings dropped from the high point of +18 to the low point of +2. It is possible that illness in her family during the second semester of the third year would account for 4 or 5 points in this drop. As she returned to a load which was more in line with that of the school, the "barometer" registered a rise from +2 to +16.

In other records which appear in Tables II and III one cannot be so certain that the "barometer" registers the effects of a teacher load that is out of line with the average of the school. Effects of load may be obscured by many other factors.

4. *Should this "barometer" be used for teacher rating?* When we ask a pupil to rank the subjects in his daily program according to the good which he is deriving from them, we are asking him to pour many considerations into one. As he ranks any particular subject he may respond, either consciously or unconsciously, to the nature of the subject matter, the way it is taught, the way it is graded, the size of the class, seating conditions, the personality of his teacher, the attitude of his parents towards the subject, and many other factors. If this be true—and apparently it is—the use of this "barometer" as a device for teacher rating is out of the question. Its greatest value is to focus the attention of the teacher and the administrator on the needs of the pupil.

# Recent Procedures in the Teaching of Latin

**Fred S. Dunham**

EDITOR'S NOTE: *Fred S. Dunham is assistant professor of the teaching of Latin in the School of Education of the University of Michigan. This editor would like to record his hope that, as long as Latin continues to be taught, all efforts may be directed towards finding teachers whose attitude towards the problem will resemble that of Professor Dunham.*

A. D. W.

AN EMINENT chemical engineer recently made the following statement: "Not until I studied Latin did I have any idea what grammar was about, nor did I have the slightest conception of sentence structure and the relative importance of words, phrases, and clauses."

The engineer's observation is an appropriate introduction to this article, since the average man who has not pursued his Latin to the higher literary levels generally thinks in terms of grammar whenever the word "Latin" is mentioned. If other values existed for those who studied Latin for only one or two years, they were seldom appreciated except in the case of the more fortunate who had understanding and progressive teachers. The common misconception that Latin is synonymous with formal grammar may be traced back to the formal instruction which prevailed in this country and in England during the eighteenth and nineteenth centuries. It is a significant fact that the first English grammar was a translation of a Latin grammar.

We hold no brief, however, for formal grammar. We are concerned rather with its functional aspects and with those values inherent in the study of Latin—values which have received a new emphasis everywhere under the stimulation of the Classical Investigation of a decade ago. Every progressive Latin teacher and administrator is familiar with this study and we shall forego a rehearsal of its findings and refrain from futile arguments with those who, as Caesar says, "are quick to believe what they want to believe." Whatever honest justification may be demanded for the place which Latin holds in the curriculum may be summarized in the following statement: He who respects law and order, enrichment and precision in his thinking and in his expression of ideas, as well as in his world of affairs, will not be oblivious to the values inherent in a functional study of Latin.

As Latin is now taught in our various types of secondary schools, three general procedures appear: the analytic or grammar-translation; the "rapid reading"; and interpretative reading for understanding and appreciation.

The first is the traditional, familiar to all who studied Latin in a former generation. The reader recognizes the earmarks: The Latin was "translated" by a deciphering process in which the words were rearranged until they made some kind of sense, right or wrong. The victim then submitted to a grilling post-mortem inquisition, conducted by the supreme judge of his scholarship. When these questions on formal syntax were answered, the teacher put down a mysterious mark in his rollbook and proceeded to the next victim. The story itself was a *terra incognita* and the student passed through Caesar, Cicero, and Vergil quite oblivious to the fact that he had read some of the masterpieces of the world's literature.

The rapid reading procedure, which is less common than the others, may be said to exist only in an experimental stage. Its proponents pursue a more or less direct procedure, and teach with the end in view by

passing directly from symbol to meaning without the interruption of the English symbol. The method, if successfully attained, bears an analogy to that advocated in modern languages by Professor Coleman.[1] The technique followed in the rapid reading procedure generally combines the main features of the "direct method" with individual reading of a considerable amount of easy-made Latin.

The third general procedure, which we have defined as interpretative reading for understanding and appreciation, demands special consideration. Unlike the two procedures mentioned above, and unlike the many well-known fads of the past which enjoyed a brilliant career for a time and were then given a respectable burial, and in keeping with those principles of modern education which may be called truly progressive, the procedure under discussion defies every effort at classification. It is the aim of every Latin teacher who understands his principles of education to provide a balanced diet of activities to meet the various needs of the many who must live in a democratic, highly socialized, and fluid civilization.

The teacher of Latin may then state his aim as follows: The primary aim in the study of Latin is the gradual growth of power to read and understand, interpret, and appreciate such Latin as is suited to the capacity and aptitudes of the learner.

Those teachers who are committed to the procedure under discussion (and they are becoming increasingly more numerous) place the major emphasis in their teaching on two general classroom activities; namely, reading and interpretation. Translation, which in the past has been regarded as the aim and almost exclusive activity, becomes a testing device or a lesson in English. Teachers now realize that the contribution which translation makes to one's control of English, especially by way of an enriched vocabulary and a clear understanding of sentence structure, depends largely on the way it is taught. Since the power to translate is merely the accumulative result of understanding the author's meaning plus the corresponding English symbols, it is believed that the ability to translate follows as a natural result of practice in specific activities in reading and interpretation. The transfer, however, from comprehension to translation is not entirely automatic. The teacher, understanding the danger in leaving transfer to chance, will not ask the pupil to translate a given unit of Latin before he has attained some degree of skill in the fluent oral reading of the Latin "with proper expression and with due regard to grouping of words"; and the teacher will not ask for a translation before the child has had an opportunity of telling in his own way what he thinks the author is saying.

The advantages to be derived from such a procedure are apparent. The child's personality is not only respected but actually stimulated. He is not asked to express in English a thought which he does not possess —an impossible trick like lifting one's self over the fence by the bootstraps. The child looks hopefully forward to that stage in the development of oral expression when he will be able to render all of the author's meaning in adequate English, and he has no occasion to look back with regret upon an autopsy performed over his mistakes, as was the case in former times when translation was almost the sole activity of the Latin class. The process is functional, developmental, and interesting to pupil and teacher alike. Finally, the teacher stands in his true relation to the child; namely, that of one who guides, directs, stimulates, and encourages him in his growth.

As we turn our attention to a consideration of some of the more specific and effective clasroom procedures, the reader is requested to observe how the ultimate objectives as defined by the Report of the Classical Investigation are utilized both in the attainment of the immediate objective and as

[1] Algernon Coleman, *The Teaching of Modern Foreign Languages in the United States*. New York: The Macmillan Company, 1929.

an application of Latin to life outside the classroom. In other words, there is an ever increasing emphasis on those procedures which secure a correlation of Latin with other high-school subjects. Even a cursory review of the many secondary Latin textbooks that have been published in the past decade reveals the profound influence of the Classical Investigation.

### THE READING OF LATIN

Reading may be roughly defined as a process whereby the reader attaches meanings to symbols. Essential to the ability to read Latin are pronunciation, a knowledge of the general principles of Latin word-order and word grouping, a mastery of necessary vocabulary, an accurate knowledge of needed forms, and a working knowledge of their function.

Since pronunciation is a sensorimotor type of activity, it is best learned in the beginning by imitation. The initial symbol is thus aural and oral. When the pupil has learned the sounds, he is taught the written or printed symbol, which happily in Latin always corresponds to the sound. When the pupil has mastered the spoken and written symbol, principles and rules for pronunciation are gradually developed. Thereafter, the pupil upon meeting a new word should be referred to the principle involved.

In attacking a passage the pupil is required to read it through before he attempts to interpret or translate. He refrains from looking up any of the words, pays attention to agreement and word grouping, and tries to grasp as much of the meaning as he can. Since this process demands much practice before it becomes habitual, the teacher definitely requires oral reading both in supervised study and in conducting the prepared assignment.

New procedures which relate to the acquisition of vocabulary reveal a stronger tendency to encourage reflective thinking. A new word is, therefore, presented for the first time in its natural setting. When a question arises as to the meaning of the new word (the "felt difficulty"), the pupil endeavors to understand it by observing its use in the context, by association with a related known Latin word, or by association with an English word of Latin derivation. When these various means fail, he looks it up as a last resort.

Latin teachers in the past lost a great opportunity when they neglected the teaching of etymology. All who studied Latin in those days are living witnesses to the meagerness of the results. It is now agreed that the pupil should be made conscious of those elements in Latin words which are common to English, such as roots, prefixes, and suffixes. Happily, the study of word formation and etymology serves a twofold purpose. First, it is an economical way of building up a large Latin vocabulary, with real understanding of formation and basic meaning; and, second, the study of derivation contributes directly to the ability to read, speak, and write English, which is the most important of the ultimate objectives in secondary Latin.

Those who claim that as good results can be secured in an English class by non-Latin pupils are referred to the findings of A. A. Hamblen and R. I. Haskell in their controlled experiments conducted in Philadelphia[2] and to the Thorndike-Ruger studies.[3]

### FORMS AND SYNTAX

In an inflected language, recognition of the forms of a word is essential to an understanding of the meaning. The word with its inflected ending may be regarded as an "embryonic sentence," to borrow Dr. Hugh P. O'Neill's happy expression. A procedure recommended by Dr. O'Neill consists of writing a Latin sentence on the blackboard. The

[2] "The Philadelphia Controlled Experiment in Teaching English Derivatives from Latin," *School and Society*, XVI (July 8, 1922).

[3] E. L. Thorndike and G. J. Ruger, "The Effect of First-Year Latin upon a Knowledge of English Words of Latin Derivation," *School and Society*, XVIII (September 1923) and XVIII (October 6, 1923).

*See* also General Report of the Classical Investigation, Part I, pp. 42-44.

teacher calls for an interpretation of each word as it is written. If the first word, for instance, is *militem,* the desired reaction is not simply "soldier," but rather "Here is a soldier and something is going to happen to him." As each word is added the pupils speculate as to the possibilities.[4] This activity is costly in time, however, and should be used only in the developmental stage.

When all the forms of a given declension have been met and understood they should be organized in tables and reviewed. Unless information is so organized and mastered, the pupil ultimately finds himself in a state of bewilderment and discouragement. Thus recent procedures in the teaching of forms emphasize the psychological order during the developmental stage, but make due provision for organization and retention.

A knowledge of the more important principles of syntax is useful in understanding word relationship. The function is, therefore, important in the interpretation of meaning. The older way of teaching syntax called chiefly for ability to label and catalogue, but did not guarantee comprehension. We now develop a feeling for constructions through activities of the following type:

1. Find in the lesson an example of a genitive answering the question "Whose?" What is a good name for this use of the genitive?

2. Draw a target [⊙] over all the accusatives used as direct objects of verbs. (Similar objective drill devices may be used for the other cases.)

3. Tell which of the following sentences you think are correct and tell why you think so:[5]

a) Him and John came.
b) He and John came.
c) It is him.
d) It is he.
e) I invited Mary and he.
f) I invited Mary and him.

(This activity is followed immediately by a similar exercise in Latin.)

A good procedure in the teaching of new forms and new principles of grammar consists in the use of worth-while Latin mottoes and quotations as illustrations instead of the usual examples borrowed from Latin grammars. Here is a legitimate use for another ultimate objective; namely, "Increased ability to understand Latin words, phrases, abbreviations, and quotations occurring in English."[6]

Effective drill activities are the Latin question and completion exercises.

Among the activities which are especially helpful in teaching comprehension are:

1. Questions in English to be answered in English.

2. Questions of the following type:[7]

"Tell the story up to the point where the new lesson begins."

"Tell what connection this passage has with what has gone before."

"What do you think will happen next?"

3. The English paraphrase aimed at general understanding. "Who can tell the story of today's lesson?" A lively discussion usually follows John's or Mary's version and, unless the teacher is on his guard, much time will be wasted.

4. An accurate understanding of a difficult phrase or clause may often be secured by means of a metaphrase or "literal translation." Such activities should be restricted to brief expressions; if it were allowed for long passages the pupil might come to recognize such jargon as permissible English. A "literal translation" should not be allowed to stand as final. Almost immediately after Jack has said "this thing having been done" or "it was pleasing to the greater part," the teacher should say "How would *you* express that idea?" or "How do we say that in English?"

### TRANSLATION

If the teacher has been insistent in the teaching of reading and interpretation, real translation follows naturally as a process of assembling the parts. In other words, the act of reading with some degree of understanding, together with the discussion carried on in the pupil's own language, has brought the Latin student to the threshold of translation. One more step and he can "tell the truth, all the truth, and nothing but the truth" in accurate and idiomatic English.

[4] Hugh P. O'Neill, *Reading Latin* (Chicago: Loyola University Press, 1929).

[5] Carr-Hadzits, *The Living Language* (New York: D. C. Heath and Company, 1933), page 27.

[6] General Report of the Classical Investigation, Part I, page 41.

[7] *Op. cit.*, page 183.

# Pictorial Representation of Literature

**Charles W. Rossier**

EDITOR'S NOTE: *Graphic representation of events or movements in chronological sequence always has a strong appeal for students. Following is a description of the use of this method as a means of promoting expression of individual interpretation of the history of English literature. The author, Captain Charles W. Rossier, teaches English at Culver Military Academy.* A.D.W.

MANY TWELFTH-GRADE courses in English consist of a survey of the entire field, from *Beowulf* and the earliest Anglo-Saxon times, down to the latest best seller and the twentieth century. To cover this vast spread of literary accomplishment in one year with any group of secondary-school youngsters is, to say the least, an ambitious undertaking. If they are to retain anything other than a hazy general impression of the vastness of the domain through which they have passed, it is necessary to slight certain literary periods and to favor others—to hit the high spots, so to speak. This, of course, is no news to those who have taught such a course.

But it is also highly desirable that the student, on completing the course, should have a pretty accurate conception of the characteristics of the various periods; and if to this can be added even a speaking acquaintance with the masterpieces of each era, and a somewhat clearly defined conception and appreciation of the poets and writers who wrote them, then the course may be said to have attained its objective. I am speaking now purely of subject-matter accomplishment. For the purpose of this article I am omitting any consideration of those other more subtle objectives that we think of as initiative, the ability to evaluate material, coöperativeness and appreciation which, it goes without saying, every teacher should seek to develop in his students. However, those interested will see, I think, that these intangibles, as well as the acquisition of subject matter, are all fostered in the project I am about to discuss.

Some years ago I conceived the notion that a project calling upon my students to represent pictorially, and in some entirely original manner, the stream of literature down which they had been sailing would do much to crystallize their impressions. This project, coming as it does with me, towards the close of the year, necessitates first of all a thorough review. The reviewing, however, is self-motivated in the sense that it is not assigned. It is undertaken because the student feels the need in his own mind to brush up on matters half forgotten, in order that he may be properly prepared for the project he is to undertake.

In addition, such a project is a personal challenge to his initiative, for his diagram or drawing must be original and it must be strikingly presented. Stop for a moment and ask yourself the question: "How can I pictorially represent the evolution of English literature from *Beowulf* to my own day? What device can I employ that will be within the scope of my ability (or lack of ability) as an artist, and that will still be striking, original, and accurate?"

You must admit that it is intriguing. In the first place, it is flattering. That you should even be called upon to attempt such a thing tickles your vanity. After a few suggestions and the glimpse of a few samples of what students did last year, you begin to get ideas. The more you think about it, the more excited you become, the more anxious are you to try it out on paper.

To spur interest even more, the competitive idea may be introduced. With the class itself constituting the Board of Award, first, second, third, and fourth prizes may be given. These prizes may be anything from various grades (A+ for first, A for second,

FIG. 1

R.McCulloch

and so on) to concrete gifts of books or whatnot. A favorite "prize" is exemption from the final examination.

I have been amazed by the cleverness and originality which some of my students have shown in carrying out this project. One of the best, reproduced in figure 1, is called the Heraldries of Literature and Life. All English literature is divided into eleven periods; each one of these is represented by a shield or escutcheon, in each quarter of which is some device peculiarly symbolic. In the Anglo-Saxon, for instance, we see the harp, emblematic of the early scops or bards; the Viking ship, reminiscent of *Beowulf, The Seafarer,* etc.; the lion of Britain, and finally two tomes: The Anglo-Saxon Chronicle and the Bible, the latter, doubtless suggested because of the student's remembrance of the great influence of religion on early literature. Below each shield is a quotation, chosen by the student to epitomize the spirit of the time, and in most cases selected from a writer of the age it describes.

The reader will find it interesting to try to decode, as it were, the significance of each of these heraldic devices. In some, the allegory is a bit far-fetched, but most of the cryptograms are so carefully selected that they are easily decipherable. For the curious, I am appending a key at the close of this article.

Figures 2 and 3 represent the Stream of Literature and Life. Each was done by a boy unknown to the other. One was done in May 1931, the other in May 1933. I do not vouch for the absolute accuracy or authenticity of detail in any of these schoolboy representations. As a matter of fact, careful scrutiny will reveal a few mistakes. In the one showing the single river, for example, Scott's *Lady of the Lake* and Tennyson's have been confused. The figure could hardly be thought of as Ellen, nor does it appear "clothed in white samite, mystic, wonderful," as she is described by Tennyson, but seems more in keeping with Sally Rand and the spirit of 1933.

Nor are the various tributaries of the other diagram (figure 3) shown to be as bountiful in their outpourings into the great river flowing into the sea of future literature, as an ardent English instructor might desire. But I have restrained the temptation to add one jot, or subtract one tittle, from the product as it was originally "turned in," nor do I care to apologize for the scandalous familiarity with which Harry Rottiers, in figure 2, refers to Jack Milton, Al Tennyson, and "Byron's boy," Childe Harold. Thus, the deficiencies as well as the merits of these exhibits should be provocative to those who may be interested in trying this project for themselves.

Other representations included such things as a railway terminal full of trains, each representing a literary period, as for example the Twentieth-Century Limited, bound for Kipling, Masefield, Conrad, Galsworthy, etc., and parts unknown; a tower made of stones, each stone a man and his works and each tier of stones a literary period; a telescope, labeled "interpretation," each lens of which was a period, focused on the star of life; a complicated diagram of the inside of a high-explosive projectile, including: Twentieth-Century primer, Anglo-Saxon combination fuse, Dryden and Pope type detonator, Return to Romanticism shrapnel, Chaucer's powder train to Canterbury, the chamber containing Shakespearian type black powder, Tennyson and Browning rotating band or ring, Commonwealth cartridge case, and Restoration percussion cap; the whole diagram being profusely dotted with the other names appropriate to each period. Then there have been such devices as a thermometer, a clock, a set of books, an oil derrick, and a calendar. This last required no artistic ability whatever, but provided an excellent means of showing the various periods and the relationship of writers and works to each.

And so on, *ad infinitum.* To attempt even to enumerate all the various original ideas that have come in through this project would

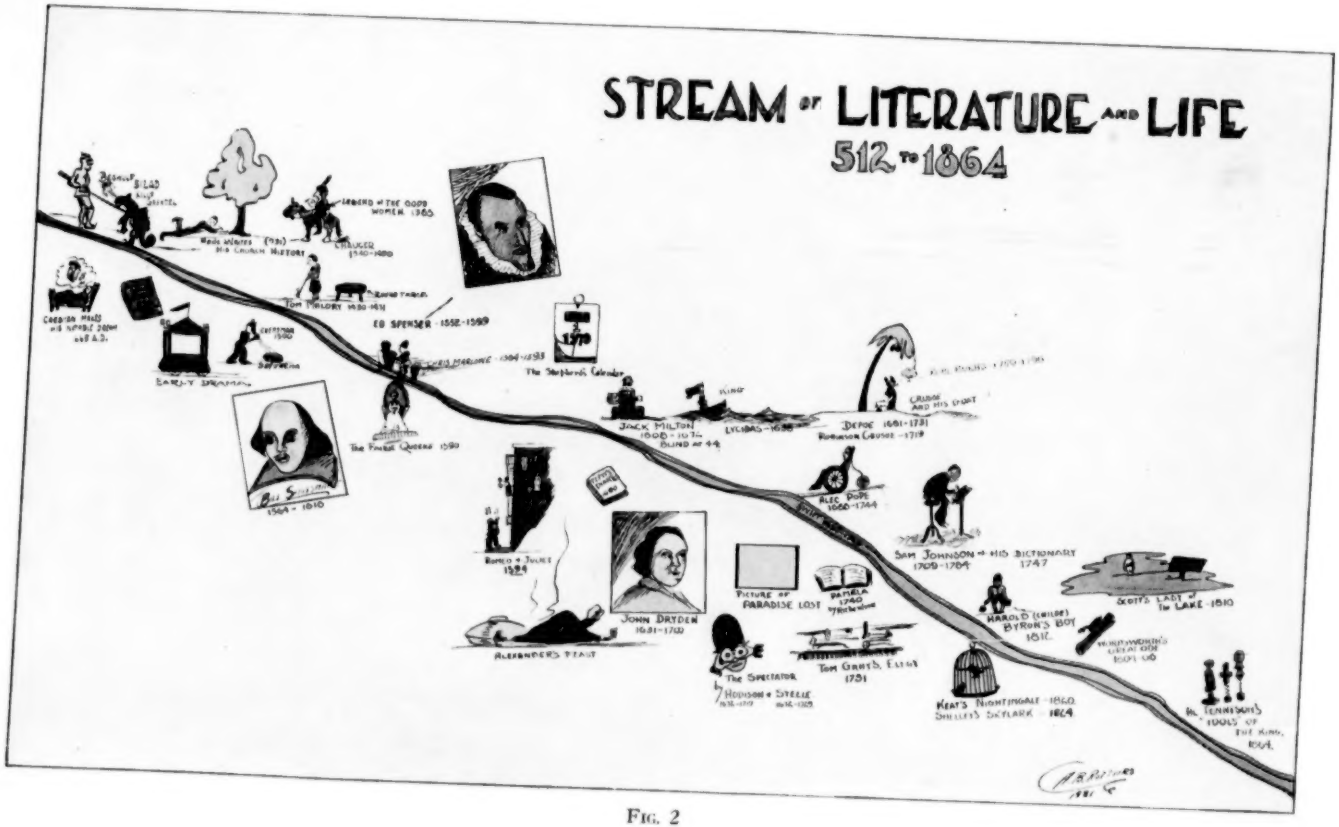
STREAM OF LITERATURE AND LIFE
512 TO 1864
BEOWULF
BEDE
LEGEND OF THE GOOD WOMEN 1385
CHAUCER 1340-1400
TOM MALORY 1430-1470
ED SPENSER 1552-1599
The Shepherds Calender
1579
EARLY DRAMA
CAXTON 1480
The Faerie Queene 1590
1564 - 1616
JACK MILTON 1608 - 1674 BLIND AT 44
LYCIDAS - 1638
KING
DEFOE 1661-1731
ROBINSON CRUSOE - 1719
CRUSOE AND HIS GOAT
ALEC POPE 1688-1744
SAM JOHNSON + HIS DICTIONARY 1709-1784 1747
ROMEO + JULIET 1594
JOHN DRYDEN 1631-1700
ALEXANDERS FEAST
PICTURE OF PARADISE LOST
PAMELA 1740
THE SPECTATOR
by HUDSON + STEELE
TOM GRAY'S ELEGY 1751
HAROLD (CHILDE) BYRON'S BOY 1812
SCOTT'S LADY of the LAKE 1810
KEAT'S NIGHTINGALE 1820
SHELLEY'S SKYLARK 1824
AL TENNYSON'S IDOLS OF THE KING 1864

FIG. 2

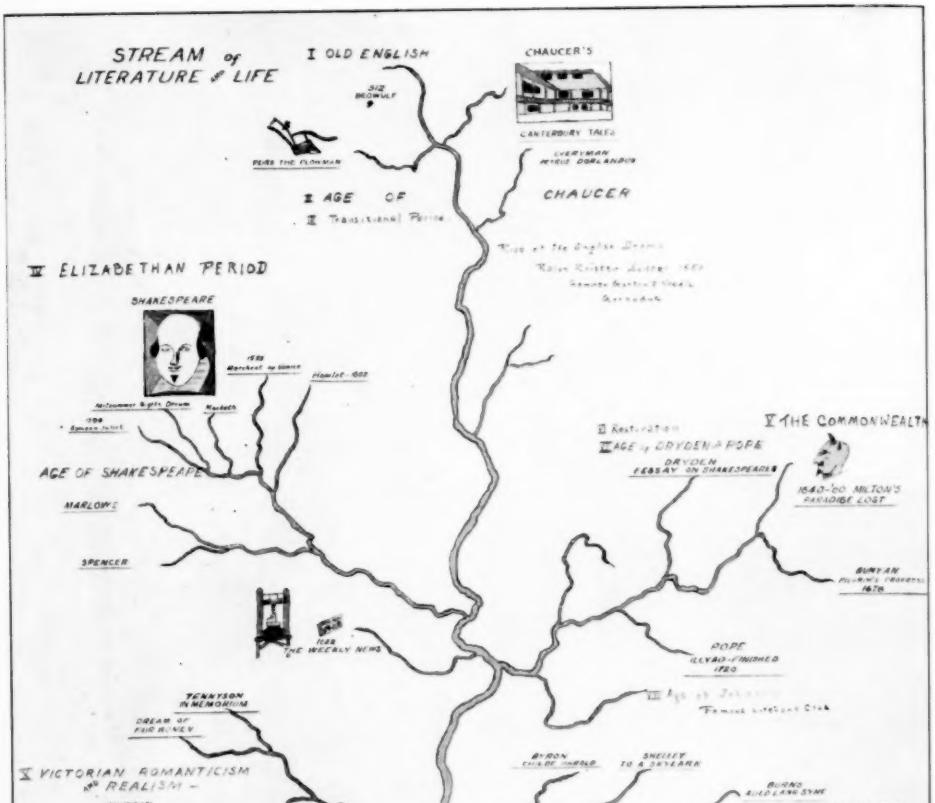
STREAM of LITERATURE of LIFE
I OLD ENGLISH
SIR BEOWULF
PIERS THE PLOWMAN
CHAUCER'S
CANTERBURY TALES
EVERYMAN
CHAUCER
II AGE OF
III ELIZABETHAN PERIOD
SHAKESPEARE
AGE OF SHAKESPEARE
MARLOWE
SPENCER
1588 THE WEEKLY NEWS
IV THE COMMONWEALTH
II Restoration
III AGE of DRYDEN & POPE
DRYDEN ESSAY ON SHAKESPEARE'S
1640-60 MILTON'S PARADISE LOST
BUNYAN PILGRIM'S PROGRESS 1678
POPE ILIAD-FINISHED 1720
TENNYSON IN MEMORIUM
DREAM OF FAIR WOMEN
V VICTORIAN ROMANTICISM & REALISM
JOHNSON
BROWNING PIED PIPER OF HAMELIN
CRITICISM
CARLYLE ESSAY ON BURNS
BYRON CHILDE HAROLD
SHELLEY TO A SKYLARK
BURNS AULD LANG SYNE
IV NEW ROMANTICISM
KEATS ODE TO A NIGHTINGALE
WORDSWORTH'S ODE
COLERIDGE CHRISTABEL
SCOTT'S LADY OF THE LAKE
EMMERSON ESSAY ON FRIENDSHIP
ESSAY ON MANNERS
VOICE OF AMERICA
V 20th CENTURY
MASEFIELD
WELLS
WHARTON
CONRAD
BARRIE
GALSWORTHY
BENNETT
HUDSON
SEA OF FUTURE LITERATURE

FIG. 3

be tiring to reader and writer alike. Suffice it to say that it is amusing to note the diverse not to mention the unexpected sources of their inspiration.

Of course, most of these picture diagrams of literature were colored. It is scarcely necessary to add that many were no works of art. But it would be surely untrue to say they did not provoke interest. Each chart is tacked on the wall when it comes in, until every boy's contribution is on display. Never was art critic more severe in his scrutiny than are they, each of the other's work. Quick to praise, they are also equally quick to blame; and inaccuracies of names, dates, chronological sequence, or period characteristics are sure to bring down a hail of denunciatory scorn. During the last week of May it is difficult to get classes under way. The boys line the walls, scrutinizing the latest additions to the gallery, praising this, condemning that, with a sincerity and an authority that is gratifying to their instructor, I can assure you. Nor is interest wholly confined to members of one's own classes. Many a lad from another section has dropped in between classes, or after them, to gaze upon the "masterpiece" of roommate, friend, or acquaintance.

But the thing I like most about this simple project is this: When it is done the student has a bird's-eye view of the whole field; he has a perspective; and with it all he has a definite, accurate conception of the characteristics of each literary period and the great writers of that period, which in my experience, at least, he never had before. In some way, the impressions of his year's work have been clarified and crystallized, and he concludes his secondary-school work in English with the happy assurance that order has come out of chaos, and that after all he does know pretty well what it is all about. And this is a state twice blessed: first, as it is a true satisfaction to the student; and second, as it brings a pleasant consciousness to the instructor that he has taught "those kids" something, after all.

KEY TO THE HERALDRIES OF LITERATURE AND LIFE

I. *Anglo-Saxon*
- First quarter—Harp: equals scops or bards
- Second quarter—Viking ship: equals *Beowulf, The Seafarer,* and similar writings
- Third quarter—Lion rampant: equals British Isles
- Fourth quarter—Two tomes: equal *Anglo-Saxon Chronicle* and Holy Bible

II. *Middle English*
- First quarter—Facsimile of Middle-English manuscript
- Second quarter—Tower: equals Norman architecture and Norman influence following the Norman conquest
- Third quarter—Tabard Inn: equals Chaucer's *Canterbury Tales*
- Fourth quarter—Rude plow: equals *Piers the Plowman*

III. *Transition*
- First quarter—Facsimile of engraving of *Everyman* equals *Everyman,* the morality play
- Second quarter—Caxton's printing press
- Third quarter—Movable stage used in giving mystery and morality plays
- Fourth quarter—Facsimile of engraving of Death as portrayed in *Everyman*

IV. *Renaissance*
- First quarter—First line of Shakespeare's epitaph as it appears on stone over his grave in the Church at Stratford
- Second quarter—Letters representing the twelve months of the year: equal the *Shepherd's Calendar*
- Third quarter—Twelve red gules equal the twelve "Christian virtues" as found in the original plan of the first book of Spenser's *Faerie Queene*
- Fourth quarter—A representation of the Elizabethan theater

V. *Commonwealth*
- First quarter—Coat-of-arms of Francis Bacon
- Second quarter—Mortar and Pestle: symbolic of Bacon's contribution to the field of science
- Third quarter—Trident and cross: symbolic of struggle depicted in Milton's *Paradise Lost* between the forces of God and the forces of Satan
- Fourth quarter—Date of the establishment of the Commonwealth

VI. *Restoration*
- First quarter—Date of the end of the Commonwealth and the restoration of the Stuarts

Second quarter—The mask of comedy: representing Restoration comedies
Third quarter—Cards: representing the debauchery of the period
Fourth quarter—Wine: representing pleasure-loving, mad revelry of the times

VII. *Pseudo-Classicism*
First quarter—The mitre of the Pope: equals Alexander Pope
Second quarter—Two tomes: equal *Robinson Crusoe* by Defoe and *The Spectator Papers* by Addison and Steele
Third quarter—The lyre of Timotheus as represented by Dryden's great ode, *Alexander's Feast or the Power of Music*
Fourth quarter—High hat: equals the spirit of complacency and self-satisfaction of this age

VIII. *Romanticism*
First quarter—The thistle: equals Robert Burns of Scotland
Second quarter—An urn: equals Keats's great ode
Third quarter—Gothic window: equals return to mediaevalism as represented in such poems as *The Eve of St. Agnes* and some of Coleridge's poetry
Fourth quarter—Two tomes: equal Byron's poetry and that of Coleridge and Wordsworth

IX. *Victorian*
First quarter—Castle: equals chivalry as depicted by Tennyson's *Idylls of the King*
Second quarter—The pipe: equals pastoral quality of certain verse of this period
Third quarter—Heart: symbolic of the romance of Elizabeth Barrett and Robert Browning
Fourth quarter—?[1]

X. *Pre-Raphaelite*
First quarter—Bag of gold: equals *Silas Marner*
Second quarter—Scarlet letter: equals Hawthorne's masterpiece
Third quarter—The manuscript found in a bottle: equals great short story by that name
Fourth quarter—*The Mill on the Floss:* equals George Eliot's novel

XI. *Modern (or Twentieth Century)*
First quarter—The bar sinister: equals the modern tendency to disregard illegitimacy and other irregularities of sex conduct
Second quarter—The palette: equals *The Dauber,* Masefield's great poem
Third quarter—The arrow and the laurel wreath: equal Masefield's laureateship with the arrow greatly reminiscent of certain romantic poems such as *Enslaved* which he has written
Fourth quarter—Keyboard: equals the spirit of the jazz age

[1] This symbol evades my memory. I never was able to figure it out for myself but did ask the boy who made the drawings to explain it at one time. He did so, but apologized for its obscurity and I have never been able to remember it.

# Historic Characters Enter Our Classroom

**Edith L. Hoyle**

EDITOR'S NOTE: *Edith L. Hoyle is critic and demonstration teacher in the University High School of the University of Michigan. In the article which follows she presents a convincing description of a method by which the past was brought to life and made to contribute to the growth of understanding and to the development of vivid interest among seventh-grade pupils in a social-studies class.*

A. D. W.

A FEW YEARS ago a seventh-grade class was beginning the study of the explorations of the late fifteenth and early sixteenth centuries. The children were not seeing a great drama unfolding; to them it was merely a lesson to be gone through. Something needed to be done to make it real to them.

"Josephine," the teacher said to the little girl who was reading aloud the story of the Portugese, "how would you like to be captain of that Portugese ship that is just starting out? You might choose a crew to take with you, too."

Ah, here was a game; every one was attentive at once.

"How many may I have in my crew?" she asked.

"Two will be all that we can spare, I guess, because there will be so many other ships. We will want to send out one from each of several other countries."

Josephine looked over the class, some of whom were frankly begging to be chosen, while others were assuming an air of indifference. She selected one and then another, and to our astonishment the second one chosen asked, "Do I have to go on the ship? I would rather stay at home and be Prince Henry." Then he slipped up to the teacher and whispered, "I have been reading ahead and he was the fellow that stayed at home and ran the whole show." The rest knew that Prince Henry and the teacher had some secret, but they did not know yet what it was. They had plenty of occasion to find out later though, for that boy read widely to find out all the things that he did "to run the show." When the crew was chosen the ship put out to sea with the captain reading aloud, and the first mate at the map pointing out the course followed, while the second mate wrote on the board the lands that they might claim by right of discovery.

We had to stop the ship to make a few rules, one of the first being that no one might read ahead during a trip to see what other nation defeated the ones then at sea. Every one then gave his attention to the trip under consideration, and hot arguments ensued as to whether the Portugese had a right to all the lands that the second mate was putting down as theirs.

The story of the Portugese finished, as far as our text gave it, a Dutch ship was fitted out and set sail. Only a brief paragraph was given in our book, and the Dutch crew demanded to be allowed to bring in a fuller account of their activities. This they did, and before a week had passed they had the Dutch East Indies established and a great maritime commerce built up.

Two boys, whose general information was unusual and who had read a great deal of history, had been whispering excitedly during the reading of the brief paragraph about the Dutch, and at its conclusion announced that one was the King of Spain and the other his captain, and that they did not need any crew. The prize lazy boy of the class demanded to be taken along and they finally accepted him, with the ungracious remark, "Oh well, you will make good ballast." Just

as they set sail the bell rang for dismissal and the trip was abandoned amid loud protests and eager plans for the morrow.

In a few days our seventh-grade text was being read and reread, and senior-high-school and even college books were being used. When the nations began to make overlapping claims, wars broke out and the word battles became so noisy that teachers from across the hall looked in to see what was wrong. Maps were drawn by each nation to show the lands it had a right to claim, and many a war was waged and many a high-school text consulted to see which country had the best claim to this peninsula or that city at a certain date. Enmity between the Spanish and the French was abandoned when the English became too powerful, and very realistic was the friendship of these erstwhile enemies as they fought their common foe, England.

They chose a tall, dark-haired girl for a princess of India, and fought stubbornly for possession of her. When the King of England finally reached the place in the story where he defeated France, he put this Indian maiden into a corner, put a table in front of her, and climbing upon it proclaimed, "And up to date, no one has ever driven me off." Thus the fate of India was decided. A very prophetic note was added by the Indian girl who said, "But I don't want to belong to either one of you. I want to be myself."

As the story progressed, the little King of England became more and more arrogant and all were wishing for his downfall, when one day, before our text had taken up the story of the English colonies' revolt in America, one of the boys asked, "May I be George Washington when we get to him?" The children knew enough of the story of the American Revolution so that several got the point at once, and waited eagerly for Washington and his followers to declare war on George III, who was getting the better of most of them. The real kings of France, Spain, and Holland could hardly have been more eager to strike England through her colonies than were those children to humble the boy who had boasted so loudly of taking their lands and driving their ships from the seas. There was no question in their minds as to why they aided the Americans, nor did they allow Washington and his army of two boys to do any undue boasting over beating the English at the end of the war. It was a day of great jollification in the class, when the map of the world had to be remade in 1783, and colored very differently from the map of 1763. The King of England and his two loyal subjects made the one for 1763 amid the jeers and taunts of their enemies, who claimed that most of the English lands had been stolen from them because England had the better fleet. It was an almost united class that made a big map following the American Revolution.

When June came it was with genuine reluctance that the kings took off their imaginary crowns and dismissed their subjects for the summer vacation. They had done more outside reading, more independent studying and thinking, more note taking and map making, and as a group knew more accurately the field we had covered than many senior-high-school classes, and certainly much more than a teacher would presume to *require* of any seventh grade. Besides, they had had such fun.

Those were the measurable results, but with them there may have been some of those intangible, concomitant results that we teachers always hope are present. Certainly, at the time, the children representing the defeated nations were not convinced that military or naval strength had given a victorious nation any more right to a disputed territory than she had had before her victory; nor was the girl representing the Indian, nor the boy representing American Indians convinced that power to do so gave a nation the right to rule them.

Some of the children, too, may have carried away the idea of looking beneath the terms of an alliance to see what the real

underlying motive was. It is certain that they had a great deal of practice in reading a page critically to get its full meaning. They also did a good deal of assembling materials found in different sources and putting that assembled material into usable form in maps, charts, or outlines.

There were many things in the text, which had nothing to do with the theme they were following, that got no attention whatever. An examination of many facts given or even stressed by the author might have met with complete failure by the entire class if those facts had been of no vital interest to them. Yet the papers they wrote at the end of the course, in which each nation summarized its own history for the period, would have done credit to twelfth graders. Those papers contain such sentences as, "The King of Spain could not contain his wrath when he heard what Sir Francis Drake had done, and he sent a powerful fleet to the English Channel (the Armada) to drive us from the seas"; "Galleons of treasure poured into the old home town of Madrid." The story had been vital; it meant something to them.

So far we have been describing a case in which the children took the part of nations or of imaginary people representing nations. Prince Henry and George III were probably the only actual characters portrayed. Much more frequently the author uses the device wherein the pupils take the parts of certain real characters in the period under consideration.[1]

Under the old King of Spain and the captain of his fleet the whole period of Spanish exploration and settlement was accomplished, with the various members of the class taking the characters of the leading explorers. The pupil usually started his story by describing himself, especially if he found that he was considered handsome, homely, overfat, violent tempered, unusually clever or anything else out of the ordinary.

Much of the year's work was studied in this biographical manner. For instance, there was a Roger Williams in the class, and he was not going to be driven from his home without knowing why. Charges were made against him by other members of the class; these he refuted with vigor. When he left he made a plea to others to go with him, promising them freedom of thought and religion if they would do so. After those debates it was easy to see why a democratic régime was the kind he would set up in the new home, why he would keep peace with the Indians, and why his would be a popular colony.

One of the favorite characters of the colonial period was William Penn, and Philadelphia became the city where others liked to go. Any colonist was allowed to visit Philadelphia any time if he could tell us just how he got there, and something that he did or saw while there. In order to make a trip from Charleston or Boston to Philadelphia, there were many things to be considered: the route to be followed, the geography of such a route, the means of transportation and the accommodations available, the likelihood of danger from Indians, all that and much more.

All the children looked forward eagerly to the Revolutionary period, and many of them chose their characters long before we got to it. Patrick Henry, Samuel and John Adams, Robert Morris, Benjamin Franklin —thirty-four men, because there were thirty-four children in the class. At times we had a George III, Generals Braddock and Howe, the kings of France, of Spain, and of Holland, an American Indian, and a French Canadian, besides the various American leaders. The Indian and the French Canadian were active and received much attention from both the British and the Americans in an attempt to win them over to fight on their respective sides.

The greatest problem in handling the class was to give time for each pupil to tell all that he wished of his own work and importance; for, of course, each one wanted to

[1] *See* "Stranger Than Fiction," *Junior-Senior High School Clearing House*, IV, 10 (June 1930), page 590.

show how important he was, and how much he had done for the cause.

When the time came to declare independence, they decided to have a meeting of the Second Continental Congress and make the declaration. The motivation for this probably came from studying a facsimile copy of the original of the Declaration of Independence with its signatures, and a copy of Trumbull's painting "The Signing of the Declaration of Independence." All other characters were abandoned for the time being, and each chose the man whom he was going to represent. Franklin and the two Adamses were delighted to find themselves members, and George Washington was much disappointed to find that he was not allowed to leave the army to come in for the Congress. When the characters had been chosen, each set out to find what part he had taken in the proceedings. They decided to stage the meeting of the Congress before an assembly of the whole school, and each child was eager to make a great speech there.

For many of the men we could find no word of their attitude when independence was finally proposed. For such a man we considered first what State he was from and what the general feeling was in that section. Then we tried to find what manner of man he was, what he had done, and thus to decide what sort of speech he might have made. For instance, we could find little about Oliver Walcott, of Connecticut. We did find that he had been an Indian fighter, and, in discussing the motion for independence, our Walcott warned against the added danger from Indians if we broke openly with England. Oliver Walcott probably said nothing of the kind; but a man who knew the Indians as he did might well have sounded such a note of warning. The little girl, who in her wide reading had found and sensed such reason for alarm, made a real contribution when she brought that idea into the general considerations.

The charges against the King and Parliament as outlined in the Declaration of Independence were used as the basis for most of the speeches. Probably few high-school classes study that document so intensively as did that eighth-grade class. They wanted to know what it said. We tried to have the man speak of the thing that would be most likely to anger one from his colony. A man from Boston would probably be the one to protest against the standing Armies "kept among us in times of peace" and "protecting them, by a mock trial, from punishment for any murders which they should commit on the inhabitants of these States." A delegate from New Hampshire, Georgia, or North Carolina would be less likely than some of the others to protest against the navigation laws, but would not be less excited than others over the danger from the Indians. Careful study of geography and industries was necessary to determine the special interests of each State, and what a delegate from that State might have said.

Such procedure makes for a highly socialized recitation, for much individual study, and calls for expert supervision to keep the proper motivation, and to keep activities directed towards worth-while ends. It frequently calls into play the dramatic instincts of the child, and gives opportunity for self-expression.

It also takes a great deal of time on a unit of work. We made no attempt to cover the eighth-grade text which we were using. The general story was followed through, however, more or less chronologically. A great deal of reading was done and there was much practice in writing and in oral expression.

The teacher also fondly hoped that hero worship of qualities which lead to accomplishments other than military prowess was promoted; that blind nationalism was somewhat replaced by world-mindedness; and that there was felt some sympathy for and appreciation of the struggle of the masses forward and upward in the political, social, and economic scale. At least the methods used seemed to give more opportunity to accomplish those ends than does the traditional recitation procedure.

# Teaching Science by Radio

**Harry A. Carpenter**

EDITOR'S NOTE: *Necessity is the mother of invention. Under the handicap of lack of adequate space and equipment, Harry A. Carpenter, specialist in science in the schools of Rochester, carried on the science course described in the article that follows. The success of the undertaking and the conclusions the author draws from it are of great interest.*

A. D. W.

IT HAS BEEN said that "it is an ill wind that bloweth no man good." With building operations discontinued because of the depression, and because of many other factors, our junior high schools lacked seating capacity to care for many 7B pupils who normally would have entered the schools in January 1933. Furthermore, it was definitely determined that after this date there would be practically no 7B or 7A pupils in the junior high schools of Rochester.

To have these seventh-grade pupils retained in the elementary schools, where there is a nearly total absence of necessary science equipment and no adequately trained science teachers, at a time when our twelve-year program in science education had become almost a reality was disconcerting and discouraging.

At this stage the manager, William Fay, of the Stromberg-Carlson Station, WHAM, Rochester, New York, came to the superintendent of schools with the offer of free time on the air for education. Was this to be a way out of our dilemma? Miss A. Laura McGregor, director of educational research for the Board of Education, had already directed several interesting experiments in education by radio. For example, under her general direction some experimental work had been conducted in one of our elementary schools provided with a public-address system. Also during the summer of 1932, under her direction in collaboration with the writer, there were presented over Station WHAM ten science lessons by Miss M. Elizabeth Tuttle of the Washington Junior High School and Mr. Jerome Davis of the Madison Junior-Senior High School. Also under Miss McGregor's direction Saturday morning broadcasts during the past year by directors, teachers, and children have served to acquaint the public with the work and aims of the public schools. With the results of these very limited experiments in mind, and some knowledge of other educational experiments by radio, we set out to use the broadcasting time made available during school hours by Station WHAM.

## THE PROGRAM

The program mapped out for this work, at the beginning, included inspirational geography talks by Mr. Mark Ewald of the staff of WHAM, a series of lessons in social studies by Mr. Charles E. Finch, director of the junior-high-school grades of Rochester, and the science lessons presented by the writer. Mr. Lew Stark, educational director of the station, was in general charge of the program.

Seventh-grade classes in the junior high schools have science two periods per week for fifty minutes each throughout the school year. Consequently, it was decided to teach the 7B science work twice each week by radio for thirty minutes, leaving a twenty-minute follow-up period for use by the regular classroom teacher in the school. In other words, the pupils enrolled in the radio science classes had two fifty-minute periods per week as was the case with those 7B pupils still in the junior high schools.

After consultation with the Committee of Elementary School Principals, it seemed desirable to equip certain rooms in the participating schools with small-sized radios rather than to use assembly outfits. In other

words, by placing the small-sized radio in the classroom, the classroom situation would be maintained to a large extent. These radios were, in every case, purchased from school funds and not by the Board of Education.

Through newspaper publicity and special notices, schools in nearby towns were invited to join the experiment. Altogether twenty-five schools enrolled, six of which were outside the city of Rochester. All schools coöperating had one or more 7B sections, and certain schools had 7A, 8B, and 8A groups taking the science work, making a total of about 1,100 pupils regularly enrolled in the science work.

This semester forty-three schools in and outside the city of Rochester are coöperating in 7B science work and twenty-three are coöperating in the 7A science work, broadcasts being given twice each week for each of these grades. The classes in these schools total approximately 2,500 7B pupils and 1,000 7A pupils.

At the outset it was decided to present the work as nearly as possible according to good classroom procedure and at the end of the semester to prepare an examination, covering the work, which would be taken by all 7B classes remaining in the junior high schools, and all 7B members of the radio classes. The first semester picture then consists of fourteen 7B classes in the junior high schools with adequately equipped science rooms and well-trained science teachers, conducting their work according to approved science classroom and laboratory methods; and twenty-five groups of children distributed among twenty-five schools in and out of the city without equipment and without specially trained science teachers; one teacher, the writer, presenting the lesson to all simultaneously. Thirty science lessons were given which included simple unit tests by radio; also on Bird Day and Arbor Day observances.

For conducting the work the following plan evolved. Previous to starting the work with pupils a fifteen-minute broadcast was devoted to acquainting the parents and others interested in the plan. In this message to parents, broadcast on February 7, 1933, I indicated the scope of the science work for 7B classes which included the following five units:

Unit I. The continuance of life upon earth is dependent on the water cycle.

Unit II. Flowing water is constantly changing the earth's surface.

Unit III. The age of the earth is very great and life has existed upon it millions of years.

Unit IV. Many of the forces of nature have continually acted upon rock, breaking, transporting, and changing it into soil.

Unit V. The fertility of the soil is affected by the nature of the rock from which it is derived, the organic matter it contains, living organisms it contains, and the care it receives.

In addition to this, our semester's work involved special observational studies of the downy woodpecker, the maple tree, and certain weather factors and astronomical observations.

To the parents I said, "During the broadcasts simple experiments will be described which it is hoped the pupil can perform at home, since the schools are practically without the necessary equipment. Here is where you can help. Let him use old cups and pans, fruit jars, old tumblers, the tea kettle on occasion, old bottles, etc. Let him do a little laboratory work in the kitchen and in the back yard. We will try to direct him so he will not be too much trouble. What is more, we should like you parents and older brothers and sisters to work along with your boy or girl. Perhaps you, too, will be interested just a little in their problems."

At first thought teaching science by radio would appear to involve the lecture method without recourse either to teacher demonstrations or individual laboratory work. Pupil activity would seem to be necessarily reduced to a minimum. These and

other considerations gave me much concern for I believe that science work should involve a maximum of pupil activity at home and afield, and a liberal amount of individual and demonstration laboratory work. Individual differences should be provided for. Interests, and scientific curiosity should be developed. Always, a classroom science should be supplemented by outdoor and home science activities. To what extent we would be able to bring about these desirable situations and outcomes was difficult to foresee. However, now that two semesters' work is over, we are in a position to summarize and indicate certain tentative conclusions which we have reached. I shall relate, therefore, briefly our method of procedure.

METHODS

All coöperating classroom teachers were provided with a copy of the seventh grade syllabus and each school eventually was provided with copies of the basic text.

Each week a brief outline for teachers was sent to the schools. In this outline I have attempted to present a point of view with respect to the two lessons for the coming week. Directions for using the twenty-minute follow-up periods, while indicated in this outline, are generally given by radio. The classroom teacher, therefore, becomes a pupil observer and adviser, a remedial teacher, rather than a teacher with the traditional functions of the science teacher. All assignments, whether for textbook study, supplementary reading, directions for school and home experiments, etc., are presented by radio. Thus the classroom teacher is relieved of practically all routine classroom work. Unit tests are given over the radio, which in turn are corrected by the pupils themselves or by exchange of papers on direction by radio.

Each class is organized as a science group, with a science staff consisting of a chief of staff, chief health officer, chief of records, and chief observer. The chief observer has assistant observers of birds, plants, weather, and astronomy. In each case there is an assistant to serve in case an officeholder is absent. These staff officers have duties indicated by their title. The chief of records represents the class in corresponding with me in the way of reports of work done and other items of business. Here again, the teacher is relieved from certain routine duties.

The pupils in each class are numbered consecutively so that pupils can be called upon by number and sent to the blackboard to make drawings, write out words, and other types of work usually suggested in a classroom.

During each broadcast four pupils from some selected school are invited to come with their principal and parents to the studio to take part in the broadcast. Frequently the invitation is issued to include one or more of the officers of the science staff with the suggestion that they be prepared to present a report to the radio pupils of the work they have been doing. Altogether 118 different pupils took part in the broadcasts in this way during the first semester. This semester approximately 240 pupils have participated, some coming from schools fifty miles or more from Rochester.

Many parents have visited the studio and the principal of each school has a share in the broadcasting. Principals from three junior high schools have participated on occasion. The Superintendent of Schools, Dr. Herbert S. Weet, took part in one of the lessons, bringing him into a relationship with the pupils of the radio classes in a way impossible without the function of radio.

The boys and girls who are to come to the studio are provided in advance with a one-sided conversation sheet which contains questions and suggestions relating to the work of the immediate broadcast lesson or previous lessons, and forward-looking or exploratory questions. This one-sided conversation sheet is completed by the pupil members of the particular class to be represented at the studio. Thus the pupil answers, com-

ments, etc., represent not simply individuals, but groups of children. Each child in the grade has a share in that conversation. Previous to the oncoming broadcast I, of course, write out my comments suggested by the pupil answers.

In the studio are four school desks and chairs, and a blackboard, so that the broadcaster can give directions for deskwork or boardwork and observe pupils at work in the studio which is the guide to what is being done by those unseen hands of pupils in the schools. This plan not only makes it possible to revise directions for work, if they apparently are not understood, but makes possible a timing of the activity so that pupils in the schools may be given adequate time to do the work required.

### RESULTS

In order to focus attention of the pupils upon the subject matter discussed, they are asked that each time they select what in their judgment was the *most important thing* and the *most interesting thing* in the lesson. They have been told that discussion of any problem of science in which they are interested will necessarily raise questions they will like to ask. Therefore, the chief of records of each grade is requested to send to me each week a statement about the most important thing, the most interesting thing in the lesson, and a question they would like to have answered. In the conversation previously referred to these items are discussed over the air. A report on the outcome of these "three things" would require an article in itself. While to a considerable extent their attention is focused naturally to topics under discussion, nevertheless, these "three things" do indicate what they want to know. For example, during the first semester some 143 items were suggested as being most important. Inspection of these indicate that they frequently are concerned with cause and effect relationships.

Study of those items reported as most interesting indicate that the pupils are interested in the great age of the earth and the length of time it takes for nature's processes. They are interested in ancient things of the world. They are interested in explaining the present by a study of the past, and they wonder about the future.

Examination of some 269 separate questions sent in under this plan during the first semester shows that almost no field of science is neglected by these children in their thinking. One 7B boy wants to know "how scientists know that the hydrogen atom contains only one proton in its nucleus." That these children in the radio classes were searching papers and magazines is indicated by their questions. More often than not, the question asks "Why?"

At appropriate times experiments are suggested and directions given for doing them. In all cases a pickle bottle, drinking glass, or what have you is suggested as the apparatus to be used. Returns show that actually hundreds of pupils try the experiments at home and, in some cases, every experiment suggested is performed there. One father stated that the kitchen had been transformed into a laboratory. A boy writes, as follows:

> When I made the candle experiment my mother said it was just a waste of time. But afterwards I called her in to see me do it. She called my father to watch me do it. They both agree that science is interesting.

A mother writes that her daughter, Phyllis, is taking science by radio in one of the schools and so she listens in and takes notes, so that they may compare and discuss the lessons together. She states that her daughter brought in four or five girl friends and together they performed the experiments at home. Large numbers of personal letters from the children indicate that they really do carry out at home the majority of experiments suggested. While there is no direct evidence as to the total number of such home experiments completed, the indications point strongly to the fact that science by radio results in a liberal amount of individual laboratory work by pupils.

Added to the pupil activities, such as laboratory experiments, are the almost endless number of observations made by pupils of the weather, of rocks and soil, the heavens, trees, and birds. Every phase of the environment comes in for its share of attention by these thousands of pupils. The following extracts from letters written by pupils are presented to show something of the type of activity carried on by the children and their interest in science presented in this manner.

DORA: During the few months I have had of science there seem to be great differences in nature to me. Some things which puzzled me before I now understand clearly.

Science has been a great help to me in many different ways. It taught me to understand more clearly the forces of nature. I am sure other pupils have enjoyed science over the air. September seems a long time to wait, but I guess it will just have to be.

EUNICE: Our whole family listens in to your interesting broadcasts and when we are all together evenings, they are often discussed. We have performed most of the experiments and my brother has been trying some of his own. The results, though not disastrous, have taught him new things, especially to ask questions and not to believe everything until it could be proved. I hope that our science classes will always be brought to us by radio.

VIRGINIA: My father let me have the attic as a sort of a studio, where I keep all my science textbooks, candles, pictures of scenery, and other science necessities. I keep it clean and tidy for I often go up there and read about science. My girl friend is in a higher grade than I and is learning about predicting weather, and she tells me what she is told each day.

FRANCES: You teach us some fact and then give us an experiment to prove it for ourselves.

You have made the lessons doubly interesting by allowing pupils to come down to the studio each week and have a class there, and by having each class have a staff of officers.

DON: After each lesson we wait breathlessly to see if you will invite No. 40 School to the studio. When we come back to our room we all try to pick the most interesting and important things and a question to ask you.

BILLY: I have turned our sleeping porch and my room into science rooms. I keep my specimens of rock on the sleeping porch. The rest I keep in my room.

My mother also listens to your radio lessons and likes them.

GERTRUDE: I wish we could have more of our lessons given to us by the radio. Through your talks I have begun to realize and understand what the great scientists are doing towards making clearer the puzzles of the world.

One of the interesting results of teaching by radio is that pupils apparently realize that sustained attention is necessary since they cannot raise a hand and ask for some statement to be repeated. Of course, there are few, if any, distractions in the classroom. Note taking, therefore, becomes an important feature. Special attention has been given to this phase of the work in the social-studies radio program and the following notes, copied exactly as they were written in the studio by pupils listening to a science broadcast, indicate the extent to which abilities in note taking are being developed.

FRANCES: To define is to describe in a few words.

Good drinking water must be free from germs. Water in nature is never pure.

Coke, coal, charcoal, soot, black carbon.

Diamond and graphite exist in different shapes. Diamond hardest natural mineral. Graphite very soft. Lead pencils made of graphite.

Carbon monoxide given off by automobiles when running is a poisonous gas.

When hydrogen unites with oxygen it forms water or (and) heat.

Color, odor, taste, solubility in water, if it unites with water; how it forms.

Flame blue when regulated correctly—no yellow tip.

Heat escapes through roofs.

Water power is used more for electricity. Water power owes its energy to the sun.

Combustion depends upon a suitable temperature, enough oxygen, combustible substance.

Oxides.

Noncombustible substances may be used in building.

Substances which produce great heat and are economical are used greatly.

"A little fire is quickly trodden out."

What are the most common fire hazards in the home?

Eliminate fire hazards.

Old buildings are constructed of combustible materials.

CARMELLA: More oxygen brings more energy.

People who make it a business to run have

a second wind, that means that they have gotten used to it.

Graphite and diamond are forms of carbon.

Diamond is the hardest natural mineral and graphite is soft.

Carbon monoxide is a poisonous gas given off from gasoline gases.

When the flame on the Bunsen burner is blue, it is the hottest.

Most of the heat from the furnaces escapes out of the roof, therefore, proper insulation is necessary.

Fire may be controlled or limited.

Oxides.

Noncombustible substances are used for building.

### THE SEMESTER TESTS RESULTS

The test that was given in June 1933 consisted of seventy questions organized under the following general topics:

| | | |
|---|---|---|
| I | Observational topics | (13 questions) |
| II | Water and the water cycle | (10 questions) |
| III | Rocks | (12 questions) |
| IV | Soil | (26 questions) |
| V | Experiments and demonstrations | ( 9 questions) |

The records of only 7B pupils from the radio classes and from the junior high schools are included in the data presented. There were 612 7B radio science pupils and 498 7B junior-high-school science pupils.

The test was prepared by two of the junior-senior-high-school department heads, each of whom has had considerable experience writing tests. The questions were based entirely upon the city syllabus for seventh grades and was written to meet the needs of the 7B pupils of the junior high schools, no influence of any sort being brought to bear because of the radio science pupils.

Studies of the answer papers include the usual statistical data, including per cent of correctness by questions. The statistical studies were made in the office of the director of educational research, Miss A. Laura McGregor. There all papers were rescored to eliminate inequalities due to personal errors, differences in judgment, etc. Following are set up the data for the two groups of children.

| | *Radio Science Group* | | | *Junior-High Science Group* | |
|---|---|---|---|---|---|
| | *Per cent* | *Scores* | *No. of Pupils* | *No. of Pupils* | *Scores* |
| Median—45 | | | | —40 | |
| Highest | 8 | 69-57 | 49 | 64-53 | 41 |
| Upper | 12 | 56-52 | 69 | 52-48 | 61 |
| Middle | 60 | 51-37 | 371 | 47-31 | 311 |
| Lower | 12 | 36-32 | 77 | 30-26 | 51 |
| Lowest | 8 | 31-17 | 46 | 25-16 | 34 |

There were nineteen radio science 7B groups distributed among eighteen schools, and fourteen junior-high-school 7B groups distributed among four junior high schools. The nineteen radio classes were taught by eighteen different elementary-school teachers, whereas the fourteen junior-high-school classes were taught by eight junior-high-school science teachers. Differences on account of race, home environment, etc., are slight because the elementary-school groups would ordinarily have been contributing schools to the junior high schools.

The radio science pupils had a higher percentage of correctness on 52 of the 70 questions and the differences in per cents on the average is much greater than the differences in per cents on the 18 questions in which the junior-high-school pupils excelled.

These data are presented simply to show a situation as the result of two radically different modes of teaching science. No attempt is made to conclude from these data that teaching by radio is superior or inferior to the method involving a trained science teacher with science equipment for each group, for there are undoubtedly returns to the pupils in the junior-high-school science classes not measured by the examination and not presented in this article. These data do, however, show in a striking manner that certain desirable returns to the pupil may result from radio teaching.

How much of these desirable returns is due to the enthusiasm of the elementary-school teacher who is relieved from the routine of lesson planning and preparation and from the fatigue of presenting the work during the 30-minute period and who can, therefore, devote her best energies to remedial work and follow-up work during the twenty

minutes immediately following each broadcast, it is difficult to say.

How much more could have been done by the trained science teachers in the junior high school had they been relieved from the routine of lesson preparation and the fatigue of presentation, and permitted to bend their energies, their enthusiasm, their training to remedial work and to the promotion of interests and certain training values that are handicapped under the present traditional method, no one can say. That radio in education must be seriously reckoned with is undoubtedly true. That it will ever replace the trained science teacher with necessary rooms and equipment it is to be doubted; but that it may relieve the science teacher of much routine work so that he may devote his energies in more profitable directions is probable at least in the elementary-school science and in the lower grades of junior-high-school science.

Perhaps one of the returns from science teaching by radio will be the bringing of accurately presented science to the children in small schools throughout the country, where the one or two teachers in the school must teach all the subject to all of the children. They could hardly be expected to be equipped by either training or experience for science teaching. Nor would they have equipment for science experimentation. In the experiment being reported, there are several two-rooms district schools in which the children regularly carry on radio science work.

There is another side to the value of radio for education in that parents may participate in the schooling of their children as indicated by the following extracts from letters from parents:

> I wonder if all the mothers of children in your science classes are as appreciative and thankful to you as I am. Your radio lessons have been the most interesting and helpful broadcasts I have listened to in weeks. In fact I went so far as to take notes in the particular ones my child was interested, then after school we compared notes.
>
> For the first time I have been able really to understand some of the changes and advances that education has undergone since I left school. There is a vast deal of difference between looking over textbooks and curricula, even explained by some one, and actually hearing a grade taught from this material and getting some of the reactions from the pupils.

Many verbal messages have been sent in. One was from a mother who listened to the radio science lessons so that she might present the material to her son who attended a school where science was not available. Doctors, ministers, engineering students, garage men, gas-station men, and many others have been interested to listen to the science broadcasts and comment as to their value to them and to the schools.

Before bringing this report to a close, I am impelled to include an extract from a letter having special interest to me. An old lady, who is a stranger to me, writes:

> As I have listened to your talks on science over the radio my mind went back to the year 1860 when your grandfather, Lucius Allen, was my teacher and told us how heat expands and cold contracts. It was in the old stone schoolhouse in Honeoye Falls. That was a long time ago and I am an old lady now of 85 and nearly blind, as you will know by this feeble attempt to write a letter.

### THE OUTLOOK

Radio is in education to stay. It has entered our schools as an aid to teaching. Will radio in education do to the members of the teaching profession what the machine has done to the laborer in industry? This is a question, I think, over which one may well ponder. In my opinion, unless we, as educators, are wiser than leaders of industry, radio will disrupt our ranks. On the other hand, if we are wise, we will take steps to ensure the use of radio as an aid to teaching and not as a substitute for teachers. Properly utilized, I think radio in the schools may make it possible for the teachers to enter into closer personal contacts with the pupils. It will free the teacher from some of the unfortunate consequences of crowded classes and crowded curricula. It will open up again to the teacher a nearly lost opportunity to confer with and instruct pupils as individuals. Radio in education may be the answer to the onslaught of mass education.

# Geometry Comes Alive

**R. H. Shanks**

EDITOR'S NOTE: *The following article by R. H. Shanks of Culver Military Academy seems to us to offer convincing evidence of the possibility of planning classroom procedures in such ways that the student may not only learn the subject more effectively, but may also make consciously planned progress in the acquisition and development of self-reliance, the power to coöperate, and such other traits as it may be desirable to aim at.*

A. D. W.

THE FIRST DUTY of a teacher of any subject is to formulate in his own mind the aims of the course which he is teaching. What are the objectives? What, more than anything else, does the teacher hope his students will gain from the course? These are the questions which should be uppermost in his mind. These are the factors which should determine the content of the course and the method to be followed in the classroom.

If a teacher in plane geometry sets as a goal for his pupils the acquisition of certain geometric facts, the knowledge of geometric forms and geometric relationships, then he must think and plan in terms of subject matter. If, on the other hand, he is concerned primarily with the growth of his pupils, with the formation of correct habits of study, and the acquisition of certain controls, then he must think and plan in terms of the personalities of the individuals within his group.

For example, suppose a teacher would like his pupils to be able to study specific situations and from such a study acquire the power to state general laws and general conclusions. Then the development of this power should be made a specific classroom problem and lessons should be planned with generalization as its purpose and the activities carried on in the classroom should be such as to teach pupils how to generalize. Again, if the teacher's objective is self-direction then self-direction should be made a classroom problem. The activities of the class should be such as will furnish experiences which permit a maximum amount of self-direction, assumption of responsibility, and the exercise of free choice.

During the last two years careful experiments have been conducted at Culver Military Academy with the intent of devising a means of individualizing instruction in plane geometry. These experiments have been conducted under the direction and with the assistance of Dr. S. A. Courtis, professor of education of the University of Michigan, one of the foremost exponents of individualized instruction and a recognized leader in educational measurements. Out of these experiments has come a new list of objectives and a new emphasis on the values sought. The following will illustrate some of the chief aims of the course:

1. Coöperation. Since people must live together and work together in this world it seems logical that they should be taught how to coöperate and the school is an ideal place to learn how to coöperate. Through group work, division of labor, and definite instruction in the technique of coöperation this fact is made a specific classroom problem in the geometry classes at Culver.

2. Generalization. The ability to study specific situations and from such study to state general laws and make generalizations is a recognized objective in all school work. To hope that pupils will acquire this power through the study of theorems and exercises is not sufficient. They must receive instruction in the art of generalizing through lessons set up with this as the explicit aim.

3. Self-direction. The student who has mastered the means of directing himself, who can tell himself what to do, when to do it, and how to do it, has acquired a form

of control which puts him in a favorable position for rapid growth. In the conventional classroom where the teacher dominates all activities and sets all tasks, there is little opportunity for the pupil himself to furnish the motive power. Provision must be made for experiences which encourage a maximum amount of self-direction, assumption of responsibility, and the exercise of free choice.

In this connection the following extract from a sheet of explanations which the writer has used in his geometry classes will serve to illustrate one of the many ways which he uses to bring this matter to the consciousness of his students:

> In order that you may know when it is right to appeal for help, and when it is not, the following suggestions are made:
>
> 1. Ask your instructor or a classmate for help:
>
> a) When you do not understand the instructions in the lesson.
>
> b) When you are certain that you have followed the instructions but have not obtained the result which you expected.
>
> c) When you think of other things, not in the lesson, that you would like to do, or when your work suggests other problems on which you would like to work.
>
> 2. Do not ask your instructor or a classmate for help:
>
> a) Before you have read the instructions or tried to follow them.
>
> b) Just because you are puzzled and do not know what to do, do what seems to you right first and then compare your work with that of some one else. In this way you will learn how to think correctly, but to ask for help before you have tried to help yourself is to deprive yourself of an opportunity to grow.

4. Vision. The power to see problems and to recognize problem situations is a definite goal to be attained. If the teacher wishes to broaden the student's vision and to enable him to make plans and foresee that which is desirable, then it should be made a specific objective of the classroom activity. Instead of always "dishing out" to him theorems and exercises which state specifically what is to be proved he should be given an opportunity to formulate theorems and state conclusions based upon given data.

5. Self-control. The student must learn to "coördinate his impulses, regulate his energies, and organize the elements of power." Progress along these lines can be furthered by recognizing the importance of specific training with the element of control as the main objective. Athletics has given us a very fine example of what is meant by self-control. In the athlete we see it as coördination or muscular control. The athlete does not blossom into a champion overnight but develops his power after long training. Neither can the student become a self-disciplined personality overnight. To become a leader in his group he must learn to control his emotions, discipline his mind, and organize the forces of power.

6. Self-appraisal. It is important that the student shall learn to criticize his own behavior and profit by it. To err is human but to continue to make the same mistakes day in and day out is due to a failure to study the cause of error and to profit by such study. An appraisal of individual action should be made a prime objective and a specific concern of the daily classroom activity. This can be done by having students check their responses against those of their classmates and then having a free discussion of differences; or by checking against a check sheet, furnished by the instructor, of his own responses to the same situations.

It will be noted that all of the objectives listed above are in terms of student growth. The reader may ask, "But what about subject matter? Is there no place in this plan for teaching geometry?" The answer is yes. In the geometry classes at Culver the activities, for whatever purpose, are set up within a given field of subject matter. The classes are still geometry classes and even though the lesson may be one on "discovering relationships," "following directions," "how to generalize," "coöperation," "critical thinking," "drawing conclusions," or whatever else, the activities are, neverthe-

less, carried on in the field of geometry and the acquisition of certain geometric facts is a by-product of the activity. In fact it is the writer's experience that the new method is better even for the acquisition side than the old conventional method where the teacher dominated all activities. It should be clearly understood that, under this method, there need be no sacrificing of subject matter, even though subject matter is not the chief goal.

Recognizing the value of the objectives I have listed, the real problem, therefore, is the problem of how best to attain these ends. The writer, in his own geometry classes, has attacked this problem from two standpoints; namely (1) through a reorganization of the materials of instruction, and (2) the adoption of a new technique of classroom instruction.

As an aid in the organization of the materials of instruction an outline of the minimum essentials of the course, together with a statement of the objectives of the course, is placed in the hands of each student at the beginning of the course. The accompanying illustration is not complete but is intended as a sample to give the reader an idea of how the chart is constructed and how the entries are made.

The second step in the organization of the materials of instruction will be found in the use of lesson sheets to supplement the text. Two copies are submitted herewith to give the reader an idea of the content of the lessons and the manner in which the material is presented.

CHART I

AN OUTLINE OF ESSENTIALS IN PLANE GEOMETRY
BASED ON THE COURSE OF STUDY
A GUIDE TO PUPILS
CULVER MILITARY ACADEMY, CULVER, INDIANA

| *Vocabulary* | *Concepts* | *Theorems* |
|---|---|---|
| Be able to illustrate each | Understand and illustrate | Be able to prove the theorem on page |
| *Angle | General pattern of a formal proof | 22 |
| *Acute angle | Principle of analysis | 29 |
| *Right angle | Principle of generalization | 43 |
| *Axiom | Locus | 48 |
| Postulate | Ratio | 66 |
| *Parallel lines | Proportion | 90 |
| Exterior angles | Symmetry of figures | 98 |
| Interior angles | Similarity of figures | 110 |
| Corresponding angles | Meaning of the symbol $\pi$ | 131 |
| Converse theorem | | 132 |
| *Quadrilateral | | 140 |
| *Trapezoid | | 156 |
| *Parallelogram | | 184 |
| etc. | | 186 |

| *Formulas* | *Applications* | *Attitudes* |
|---|---|---|
| Be able to state and use the formula for | Show your understanding by | Cultivate |
| Sum of the angles of a triangle | Listing ways of proving triangles congruent | Desire for thoroughness and accuracy |
| Area of a trapezoid | Applying principle of 30–60 degree right triangle | Desire to grow mentally and improve former records |
| Circumference of a circle in terms of radius, in terms of diameter | Seeking generalizations of all theorems in higher space | Willingness to assume responsibility for assigned tasks and for making up deficiencies |
| Ratio of corresponding lines in similar figures | etc. | etc. |
| etc. | | |

* Give the definition as well as the illustration.

CULVER MILITARY ACADEMY
PLANE GEOMETRY
LESSON SHEET I

Unit I—Fundamental Ideas
Lesson 4—Angles

In your recent studies from your text you have learned that an angle is the amount of opening between two lines which meet at a point. You have also learned the names and characteristics of the different kinds of angles, and the ways of naming them. A real test of your understanding will be found in your power to use this information in its application to different situations. This lesson is written for the purpose of affording you an opportunity to see how well you can transfer your knowledge of angles in the plane to the generalized angle in space. You will be asked to

investigate the problem of an angle moving through space in exactly the same manner as you did for the problems of a point, a line, and a plane moving through space. You will be asked also to give the corresponding situation in space for each of the different kinds of angles in a plane, and to name these generalized angles in accordance with the method which you have learned for naming angles in a plane.

This lesson presents a real challenge to your ability to do reflective thinking. In a certain way it represents to you a life situation, for this is precisely the problem with which you are constantly faced in life. Even on the football field your coach teaches you how to defend against specific plays, and hopes that you will gain from these the necessary power to meet the new situations which arise in every game.

### *C. Assignment*

1. You have learned that a point moving through space generates a line, while a moving line generates a surface. What would be the figure generated by an angle moving straight through space? Such a figure is called a dihedral angle. Can you point out one in this room?

Since the rest of your work in this lesson depends upon the progress you have made in the answer to this first question, you may turn to the figure on the attached sheet[1] and check your figure with it.

2. What designation would you suggest for the parts of a dihedral angle which correspond to the vertex and sides of a plane angle?

3. Can you draw and define the corresponding dihedral angle for each of the following: (a) right angle, (b) acute angle, (c) obtuse angle, (d) straight angle, (e) adjacent angle, (f) supplementary angles, (g) complementary angles, (h) vertical angles? Illustrate each with a figure.

4. How would you suggest lettering a dihedral angle for purposes of describing it? Illustrate.

### *B. Assignment*

1. In dealing with dihedral angles we are faced with the problem of measuring them. The following questions are designed to aid you in discovering a solution to this problem.

a) Can you draw unequal plane angles within a dihedral angle by drawing one line in each face? Illustrate.

b) Can you draw two equal angles within a dihedral angle by drawing one line in each face? Illustrate.

c) Can you suggest a way of measuring a dihedral angle?

[1] Figure not included here.

### *A. Assignment*

Has this lesson suggested any other types of generalizations or problems on which you would like to work, or questions which you would like answered? If so note them down for general class discussion.

In class you will be given an opportunity to discuss your work with small groups of your classmates. Be prepared to defend your views, or, when convinced of your error and the accuracy of your classmate's, to accept his. Check any problems on which you would like a general class discussion.

CULVER MILITARY ACADEMY

PLANE GEOMETRY

LESSON SHEET II

Unit V—Discovering Relationships

Lesson 3—Quadrilaterals

A study of the quadrilateral presents many simple but interesting relationships. It is not sufficient, however, to be able to discover relationships; there always comes a time when you must prove that your discoveries are true. This lesson will give you an opportunity to test your powers of inventing, or discovering ways to prove relationships which appear from a study of the figure.

You may find this lesson too long for a single night's study. If so, do not try to do it all in one evening. You will be allowed up to two days for its completion.

### *C. Assignment*

1. The first step in discovering relationships between the parts of a quadrilateral is to make certain that you clearly understand the essential characteristics of each of the different kinds of quadrilaterals. Your first assignment, therefore, is to study the definitions on page 126 of your text.

2. Draw a general parallelogram (be as accurate in the construction of the figure as possible), and study the figure to see if you are able to discover a definite relation between the opposite sides, in addition to the one given in the definition; namely, the opposite sides are parallel. State your discovery as a theorem and test its accuracy for other kinds of parallelograms; *i.e.*, square, rhombus, and rectangle.

3. Do the same for the opposite angles. State your discovery as a theorem and be certain to test it for other kinds of parallelograms.

4. Draw a diagonal of the general parallelogram and see if you are able to discover a definite relation between the parts into which the diagonal divides the figure. State your discovery as a theorem and be certain to test it for other kinds of parallelograms.

5. Draw both diagonals of the parallelogram and study the figure to see if there is any definite

relation between the lengths of the parts into which the diagonals divide each other. State your discovery as a theorem and be certain to test it for other kinds of parallelograms.

6. Draw a line through the point of intersection of the diagonals and extend it to cut the opposite sides. Study the figure to see if there is any definite relation between the two parts into which this line divides the parallelogram. Write your discovery as a theorem and test its accuracy by drawing the line in various directions.

7. See if you are able to give a formal proof for each of your discoveries. Write your proofs.

8. Now state each of the theorems which you have discovered as a converse theorem and then investigate each to determine whether it is true or false.

Appraisal: When you have completed the C assignment you will want to know how well you have done. Ask your instructor for a check sheet so that you may check your discoveries with his. Mark any points on which you would like further discussion.

*B. Assignment*

The following assignment is added for those who would like to try their powers of discovery on problems of a different type.

1. Investigate the parallelogram for the conditions under which the two diagonals are equal in length. Write your discovery as a theorem.

2. Investigate the parallelogram to determine under what conditions the two diagonals are perpendicular to each other. Write your discovery as a theorem.

3. Write the converse of each of your discoveries in this assignment and then determine whether it is true or false.

*A. Assignment*

1. Investigate the quadrilateral which is not a parallelogram to see if it is possible to have one in which the diagonals are perpendicular to each other. If so, state the necessary condition.

2. Investigate the trapezoid to see whether its diagonals are ever equal in length, always equal in length, or never equal in length. State the necessary condition for each.

3. There are still other relations which make a quadrilateral a parallelogram, in addition to those discovered in the converse theorems of the C assignment. Show your originality by discovering one of these. Write out your discovery and hand it in to your instructor for special credit.

Still another departure from the conventional organization of the materials of instruction will be found in the testing program. Two tests are prepared for each unit of work. They are alike in principle but unlike in content. One of these is used for practice and for student appraisal; the other is a test for the teacher's record. When the student feels that he is ready for a test he goes to his instructor and asks for a practice test. In order to keep the individuals of the group together at the beginning of each unit a definite time is set for the record test and the student is expected to budget his time and arrange his program accordingly.

In addition a very free use is made of tests for teaching purposes, there being frequent short tests of various types—multiple choice, completing sentences, true-false, drawing conclusions, etc.

The final step in the method of obtaining the objectives listed above will be found in the technique of classroom instruction. The aim is to get away from a recitation period of teacher domination to a period of self-directed student activity. Lessons are set up in a situation as lifelike as possible, with a clear statement of the purpose of the activity. Each pupil, during his period for homework, makes an independent study and analysis of the lesson. On the following day the class meets in small groups, selects a group chairman, checks and appraises the work of the individuals. When there is a disagreement each tries to justify his views with the members of his group. During such discussion the teacher circulates among the groups, listens to the discussions, gives advice and suggestions when he feels that they are needed, or gives assistance in answer to direct questions or appeals for help.

Following the group activities there is usually a period of general class discussion, when all groups assemble as a class unit to pool their interests and findings. Opportunity is also offered for individuals to make contributions and suggestions for the benefit of the whole group. At this time the teacher returns to the scene and through his richer experience summarizes and adds his own knowledge of the situation to that of the group. This latter procedure is of tremendous value because it is only after the

experiences of the individuals have formed a framework that the teacher may fill in the gaps and really do effective teaching.

During the study of original exercises the class is sometimes divided into two groups, with a captain for each. The groups then work in competition. As a pupil finishes a demonstration of an exercise, he passes it to a member of the opposing team, who must stop immediately and pass upon the proof as right or wrong. In all such cases the rules of the contest are clearly set forth. The teacher acts as referee and keeper of the records.

On other days the activities of the class are conducted with each pupil checking the work of his neighbor, or during the study of definitions and written proofs each pupil drills and quizzes his neighbor.

It is plain that this plan involves a shift of responsibility for achievement from teacher to pupil. Under the old plan the teacher set the tasks, the teacher asked the questions, the teacher quizzed and drilled on the daily assignments. Under the new plan the student himself shares in setting the tasks, the student asks the questions, the student drills and quizzes his classmates, and in many cases the student even marks the papers and assists in rating his classmates. It represents a complete shift, an about face, as it were. Instead of the questions coming from teacher to pupil, as in the conventional method, they are now from pupil to teacher. This is right because it is the pupil who is in a position to know what he does not understand and exactly where he needs assistance.

More and more educators are coming to realize that growth or improvement is a natural process taking place in accordance with natural law. From this point of view it is the part of the teacher to develop conditions favorable for growth. He can present objects and situations for student activities. He can answer questions, suggest remedies, assist in planning, guide students in the analysis of problems, teach them how to make generalizations, etc., but as Dr. Courtis has well said: "Only the child's inner self can make the choices which alone integrate personality."

## CONCLUSIONS

Based on the results of tests and the experience of the writer in working with groups both in plane and solid geometry, the following conclusions seem to be justified.

Under the new plan the student attacks new situations with confidence. He is taught to see problems, to make plans, and to act in the face of new situations.

The new method stimulates thought. The pupil is no longer learning facts from a text but is carrying forward activities which call for individual thinking.

The new method creates a willing attitude towards work. There is a feeling of ownership in the work done because the conclusions reached are the results of the student's own creative thinking.

The new method gives greater power in analysis and generalization, since it is concerned with the formation of correct habits of study and general methods rather than with the acquisition of specific facts.

Near the close of the last semester the writer's class in solid geometry, which had worked under the new plan, was given the American Council Solid Geometry Test (Form A). This same test had been given at Culver in 1929. At that time the median for independent schools on this same test was 44.8. The scores of the class tested last spring ranged from 51 to 94 with a median of 76.

The writer's three classes in plane geometry, after using the new plan, were given the Schorling-Sanford Achievement Test in Plane Geometry (Form B). The median for this test is 31.2. The median for the three classes tested last spring was found to be 39.5. When compared with the distribution table in the manual of directions it was found that approximately 80 per cent of the Culver scores exceeded the median score for the test, and 50 per cent made scores equal to or better than the top tenth of those on whose scores the table was based.

# Keeping *Com* in Composition

**William L. Fink**

EDITOR'S NOTE: *William L. Fink of the Senior High School of Reading, Pennsylvania, describes the successful application of a sound social and education principle to the teaching of English composition.* A. D. W.

IN FORMULATING his educational *credo*, the average teacher of English unhesitatingly asserts that his major aim in teaching his subject is the development in the pupil of a power that will enable the individual to perceive adequately what he reads or hears and to express himself effectively in written or spoken language. In actual practice, however, the teacher frequently stresses interpretation and appreciation at the expense of expression.

The cause of this oversight on the part of the instructor is not far to seek. To many teachers of English in our secondary schools, the presentation of a unit in literature is delightful indeed; their courses in college prepared them for just this sort of thing. The mastery of units in mechanics and the development of skill in writing and in speaking, on the other hand, are matters of utter drudgery, to be avoided whenever possible. This spirit of indifference and neglect on the part of the teacher is contagious; it engenders in the pupil a hostile attitude towards composition.

If we wish to make our whole teaching of English functional and effective, we must remedy this difficulty; we must free composition from the stigma that has been attached to it. Our attitude must be one characterized not by *contra* but by *con;* we must keep *com* in composition. The prefix of the word must imply not merely the putting together of language elements; it must signify a sympathy with the subject on the part of the teacher and of the pupil; it must betoken a spirit of coöperation between teacher and pupil in the pursuit of a worthy enterprise. To keep *com* in composition was the purpose that motivated the development of the philosophy and devices to be discussed in this article.

Successful composition work begins with the teacher. He must believe thoroughly that expression is a necessary function in the teaching of English; he must prepare himself specifically for the directing of writing; he must become a well-informed person of broad sympathies so that he may keep pace with his pupils in the fields of their special interests and achievements.

If writing is to be an interesting procedure instead of a mere chore, there must exist a spirit of understanding between the instructor and the instructed. The pupil must know why he is writing and what is to be gained by the activity. The teacher must know the pupil: his sociological background, his apperceptive mass, his hobbies, his aims, and his ambitions. The teacher must make his assignments in terms of this knowledge. The days are happily past when the pedagogue imposed the same uninteresting subject upon all members of a group and bade them speak or write irrespective of individual interests.

The school that believes that *com* in composition may mean coöperation devises a system by which a careful cumulative record of a pupil's progress in composition is kept from the time when the pupil becomes a member of a school group. In our own experiments, each of our teachers of English is supplied with a small filing case in which he keeps a case-study card for each of his pupils. The card reveals at a glance the student's interests, his achievements in composition, and glaring difficulties in mechanics which he is trying to overcome. When a pupil is promoted to another teacher's class, the card accompanies him on his way; and the new teacher feels that he knows something

about the pupil at the very outset. The teacher informed concerning pupil ability is prepared to capitalize pupil interests.

Teacher-pupil understanding functions in another way in an effective composition situation. When the student sets out to develop his theme, he should see clearly the path he is to travel. This insight presupposes more than a mere mention of the topic to be developed; it requires a discussion of the possibilities of development. An ideal composition situation is one in which a thorough teacher-pupil and pupil-pupil discussion precedes the organization and presentation of material.

That writing may be a controlled rather than a hit-or-miss procedure, Reading High School has set up its composition laboratories where, on theme day, our students gather data from the classroom library, organize material under the direction of the teacher, write, confer, and revise. All compositions are written in the classroom and are corrected during the laboratory period in teacher-pupil conference. This latter arrangement makes for effective coöperation and frees the teacher from hours of paper work after school.

The laboratory procedure, furthermore, provides splendidly for administering education in terms of individual differences. In the composition workroom, each pupil travels at his own rate of speed.

To make expression purely an individual matter, the pupil charts his own progress. From the time when a student enters junior high school, his themes are filed in a folder kept in the classroom and available at all times for reference. (These folders travel with the student as do the case-study cards already mentioned.) Frequently, motivated by his own desire or the request of a teacher, a pupil may turn to his file to note his progress. This accumulation of composition material makes for an individual's pride in achievement and determination to improve.

Case-study cards and theme files make another very definite contribution to the preparation of remedial measures. At intervals, teachers study the recurrence of certain errors and, when frequency necessitates, build up usage units designed to correct errors common to the group. These remedial measures become matters of individual and group concern.

Now we come to a very practical consideration: the very crux of the whole matter. What is the value of this philosophy and these devices? Are they effective? Have they produced the desired results? For us, we believe that they have. During the last four years, in a school of three thousand pupils, we have reduced our English failures from 11.5 to 6.3 per cent. During the same period, judging from results gained from the use of the Columbia Research Bureau English Test, Form A, Part II, we have raised our mean from 35 to 40.5. Aside from these material gains, we have succeeded in developing among our pupils and teachers a new attitude towards composition. We are finding "joy in the working." We are, therefore, convinced that we must keep *com* in composition.

# The Board of Trustees

## One of Them

EDITOR'S NOTE: *The author of the article that follows gives us a vivid account of the effective participation of a community in the work of its schools. For obvious reasons the location of the community is concealed and the author's name withheld.* A. D. W.

IT WAS AT A meeting of a private school association in a Beacon Street parlor, with gracious headmistresses and distinguished headmasters and imposing trustees in dinner coats, that I first heard the cry raised for the public schools, "Where is the board of trustees?"

They had listened spellbound to Angelo Patri, who told of his coming to public school "On that first day, there were little boys who sat on the fence, little boys who didn't like school very well. They looked at me as I passed them and whispered that I was the new principal and then threw tomatoes at me." He smiled whimsically at the astonished educators that filled the Beacon Street parlor. "I could see that I must first find out why they wanted to throw tomatoes and what they liked better than they liked school." And so opened the adventure now familiar to all progressive educators and triumphantly consummated in a school known throughout the world. But on its way, it had its periods of disaster and discouragement.

There was a day when certain supervisory visits from headquarters revealed the fact that the new principal had set an algebra teacher to conducting a geographical exploration and a teacher with a history license to directing plays, and like violations of established routine which resulted in prompt commands to press back into the strict limits of their licenses the errant enthusiasts.

"It was a disappointment," admitted Angelo Patri.

"It was an outrage," cried a splendid aristocrat in a white shirt front. "But my dear Mr. Patri, where was your board of trustees?"

Mr. Patri smiled. "There was no board of trustees—only politicians."

Even to those more able to visualize the great public-school machine than was this eminent guardian of a select private school, there is often occasion to echo his apparently naïve remark, "Where is the board of trustees?" Bureaucratic regulation, boards of regents, State departments of education perform many of the functions of the board of trustees in the old academies; they handle finances and superintend appointments and building programs—but, in addition to their tendency to become politicians, they often lose that function of a trustee in representing the community's vital interest, pride, and sponsorship of its schools.

That vital interest, pride, and sponsorship must not become meddlesome and impertinent in educational affairs, as Mr. Laski has recently pointed out in an article, but, properly directed and self-controlled, it is a necessary way of keeping the roots of educational institutions nourished from their real source of strength, the community whose children they serve. And when red tape, and politics, and antiquated procedure throttle our schools, whose pride shall be touched and whose initiative awakened to correct wrongs? There should be something. Perhaps, as the gentleman said, it is a board of trustees.

Some such need became apparent in the New England town of Exbridge two years ago. A school system serving some two thousand children in a community of unusual financial and cultural strength had become entangled in a series of notable errors.

The conspicuous symptoms were unrest and rebellion in the student body. A series

of unhappy disciplinary situations resulted. Corporal punishment, always relied on in the schools of that town, was resorted to more and more frequently and unwisely in desperation. Two or three ugly stories of injuries to children inflamed an already sore feeling between parents and administrators. A spirit that can only be described as bullying seemed to have grown out of the use of punishments such as shaking children and flinging them against the wall, locking them in closets, and using a strap or a ruler even to kindergarten children; and this spirit met the parents themselves, on the occasions of their individual complaints, and roused inevitable fury.

Moreover, a lack of confidence in the scholastic efficiency of the schools grew out of and aggravated the situation. In spite of the fact that the schools contained a rather large proportion of superior children, the academic showing was unsatisfactory. Failure, not only to prepare adequately for college but even to keep up a standard which permitted of transferring students to comparable grades of other secondary schools, was demonstrated in case after case. Instead of meeting the failures frankly there were repeated efforts to disguise them by discouraging college aims in children whose preparation should have been adequate, of publishing misleading lists of alleged graduates who had entered college (and omitting to note that it was often after added preparation in private schools).

For a period of years parents tried to deal with the situation as individuals and found themselves baffled by a school board whom they met only in the person of a bland and unbelieving chairman who smiled away their grievances and put down their complaints to captious criticism, and by a school superintendent who tried to bully parents that he thought unimportant and toady to those he thought socially significant. Constructive and friendly criticism of parents he resented.

"All I want of the parents is boosting," he remarked to one of them.

The conviction grew that a school system, serving a community of more than average ability and means, had got into the hands of an administration sadly lacking in educational vision.

It was admittedly a serious situation. Where was the board of trustees? It was gathering itself together from a heterogeneous group of parents, massed behind a spearhead of vocal leaders, the more observant and courageous mothers of the Parent-Teachers Association. The fathers were represented largely in the group—a college professor, an electrical engineer, an Italian owner of a taxi stand, a social worker, a publisher, a blacksmith, and others—a group that had little else in common, perhaps, except interest in the education of their children. Their widely variant capabilities and temperaments produced a singularly effective unit. Hasty passion was checked by academic calm; hesitant temporizing was stirred into action by explosive zeal.

They began to meet in little groups to air complaints and doubts that had accumulated over a period of years. Remedies, feeble and drastic, were suggested and repudiated. One point of agreement emerged. The present superintendent must not continue if matters were to improve. The first decisive act was the drawing up of a petition to the school board that they do not reappoint the superintendent. Warned by many rebuffs that they would be dismissed as a minority and ignored, the leaders undertook to get signatures to the petition from as many parents as believed in it. In three days they had a list that represented over half the school population.

The petition was presented to the school board on the evening of the hearing on the school budget before the board of finance and was received with ill grace by the chairman of the board, still reluctant to believe that the dissent was significant. Determined to convince him, the citizens arranged to use the meeting of the board of finance, when the school budget was open to public discus-

sion, as an occasion to express themselves on the school situation. A spokesman for the group went, previous to the meeting, to the chairman of the board of finance and received his promise to add to the usual order of business an opportunity for more general questioning of school administration.

The hearing on the school budget is, in a New England town, open to the citizens, but is usually sparsely attended. With the quickened interest in all school matters and the knowledge that a petition was in the hands of the school board, so large a crowd gathered that before the hour for the meeting it had overflowed the little town hall, and the hall of the civic center across the way was offered. Traffic on the highroad was halted while the audience trooped across to the larger gathering place into which it thronged, orderly and quiet, but tense with purpose and expectation.

The items of the budget were disposed of with intelligent comment and full coöperation. This was no crowd of insurgents bent on harassing its public officials; for the moment it was a board of trustees voting funds for its children's education but apprehensively lest it should not get full value for what looked like a generous expenditure. At the end of the hearing, the chairman, forewarned by his understanding of the huge and orderly meeting remarked that in all his experience of budget hearings no such attendance had ever been present till this night. It would be idle to overlook the interest represented by such numbers. The school board and the board of finance were present and though no action could properly be taken by such a meeting, it might afford an opportunity for comment, if there was any, on the expenditures of the school appropriation.

There was a rustle of excitement. The chairman of the school board rose and gathered up his papers, muttering that in his opinion it was time to adjourn the meeting. But a spokesman was already on his feet and had obtained recognition of the chairman of the board of finance.

"I hope that the chairman of the school board will stay to hear what the citizens are trying to say to him. It is true that the individual items of the budget have been considered and approved. The total amount of the budget is large—but not too large. The voters are glad to approve it if it shall benefit the education of their children. But, Mr. Chairman, it seems to many of us unlikely that under the present methods of supervision it will achieve that end. Private expression of lack of confidence in the supervision has received little attention. It is as a last resort that we take this time when our mutual duties bring us face to face to ask that while the school board receives our assent to its budget, it hears our plea to change at the end of this year the superintendent under whom it is spent."

Whitefaced with his resolution, the spokesman sat down. It had taken resolution to face that huge crowd electric with feeling, the school board, and the superintendent himself, to challenge the very authority given by the townsmen themselves to their representatives in matters of education.

The chairman of the school board was crimson with rage. The restless crowd broke into eddies of conflicting sentiments—applause for the speaker, sympathy for the superintendent thus publicly attacked, horror at this airing of grievances before a reticent New England town, and Latin fervor of revolt by Italian citizens in the rear. The presiding officer held the crowd steady for a few moments of discussion, which began with well-cited cases of mismanagement and rose to argument and personal vituperation, finally becoming so heated that the meeting had to be adjourned.

In the weeks that followed, the town was an armed camp. The justice of the attack, and the method of attack were flayed on one side. The attitude of the school officials was deplored by the other. Letters in the local

paper challenged principles and personalities. The various members of the school board were subjected to pressure on both sides.

Under cover of the din, the leaders, dismayed indeed by the fury they had evoked, but undaunted in their purpose, began systematically to consolidate their position. Their facts were being called in question. Their word was openly challenged. To give proof of their contentions they obtained signed records of the cases of abuse that were the symptoms of the conditions of which they complained. Orderly blanks were filled in with the details of cases of mishandling of children, teachers, and parents, by school authorities and signed by those who reported them. Collected, they made a significant body of evidence as to the quality of the leadership in the school.

In the meantime, a local organization which had taken no part in the controversy as a body, but which contained members who differed among themselves as to the justice of the attack on the schools, brought into a town meeting the request for a formal survey of the schools to be conducted by impartial educational authorities of high standing. In the debates in town meeting over appropriating a sum for the survey, antagonisms and personalities flared up afresh. But in the end, it was this wise constructive course which drew much of the rancorous poison from the whole controversy. There were leaders on both sides that desired the survey; there were towns on both sides who were sincere in their public interest and divided merely in their judgment of the proper method of forwarding it. The question of the survey brought them together after a bitter rift and the limelight shifted happily from the superintendent himself to the survey. New alignments cut across old ones. The appropriation for the impartial survey was won and the town began to cool down a little.

But in its moment of high feeling it had at last impressed the school board. Long-doubtful members, reinforced by the demonstration of public feeling, took a vigorous stand for a change in supervision. By the time the educators began to make a study of the school, it was known that there would be a new head of the system the following year.

The survey, lasting over several months, embraced work under both men and gave impartial and impressive evidence that the change had been necessary and beneficial to the best interest of the school. And that the survey was in itself a valuable result of the agitation from which it came was evident to those who studied it after it was placed in the hands of the town. It alleged that clear-sighted and constructive educational leadership had been lacking in the administration and supervision of the schools of Exbridge; that inadequate provision had been made in the curriculum for individual differences—for the extremely handicapped and the markedly superior child, that the usefulness of the programs and present organization of teaching in music, drawing, and physical education in the elementary schools needed careful study; that instruction was characteristically traditional and nonprogressive. Teachers were in general more concerned about drill and memorization than about the development of such essential qualities as self-control, critical thinking, and self-dependence; that school life activities that provide pupils with opportunities in participating in the direction of their own activities were largely lacking; that there was a lack of an adequately defined promotion policy all along the line from kindergarten to high school.

These were a few of the findings which established the need of school reform more soundly than the complaints of parents, based on knowledge of individual cases subject to emotional interpretation, could have done. In twenty-one major recommendations, the survey outlined a method of reform which included advice to all the ele-

ments that made up the school including administrators, teachers, Parent-Teachers Associations, and minority groups of citizens.

In the light of this report, and in the strength of confidence in the new leadership, the community set itself to a concerted effort to remedy a situation due to mistakes for which all of them shared responsibility.

No one realized more keenly than the self-constituted board of trustees that their activities had been forced into a channel that was highly dangerous to the peace of the school and the community. Few of them were hot-heads who enjoyed the personal and public battles in which their efforts enmeshed them. They pressed on grimly, conscious that they had on their hands a situation too long aggravated by temporizing to bear further delay. Their effort successful, they happily resigned leadership to the new supervising officer and the school board that already showed new signs of solidarity and awareness of public need. The little band of leaders slipped back again into the crowd of parents.

Though a sense of the power of concerted belief had been born in them, so had the realization of the dangers and difficulties of such direct pressure as they had exercised. There is little prospect that the parents will rashly embark on too much group interference with their schools. But they have learned that to suffer long and futilely the results of poor administration is needless. The helpless mutterings and complaints of other communities who have let the reins of their children's education slip from their hands sound absurd to those who dared to grasp those reins firmly. Where, they may ask, is their board of trustees?

# School Law Review

**Daniel R. Hodgdon**

EDITOR'S NOTE: *Questions on matters concerning public-school law will be answered in this department by Dr. Hodgdon. Address your inquiries to him in care of* THE CLEARING HOUSE.

F. E. L.

### TEACHER CONTRACTS

Occasionally school boards attempt to make contracts with teachers containing conditions which invade the teachers' natural rights or liberties. An extreme case of a contract of this sort is one from North Carolina. The following provisions were inserted in the contract:

"I promise to take a vital interest in all phases of Sunday-school work, donating of my time, service, and money without stint for the uplift and benefit of the community.

"I promise to abstain from all dancing, immodest dressing, and any other conduct unbecoming a teacher and a lady.

"I promise not to go out with any young men except in so far as it may be necessary to stimulate Sunday-school work.

"I promise not to fall in love, to become engaged, or be secretly married.

"I promise to remain in my boarding place or on the school grounds when not actively engaged in school or church work elsewhere.

"I promise not to encourage or tolerate the least familiarity on the part of any of my boy pupils.

"I promise to sleep at least eight hours a night, to eat carefully, and to take every precaution to keep in the best of health and spirits in order that I may be better able to render efficient service to my pupils.

"I promise to remember that I owe a duty to the townspeople who are paying me my wages, that I owe respect to the school board and the superintendent that hired me, and that I shall consider myself at all times the willing servant of the school board and the townspeople, and that I shall coöperate with them to the limit of my ability in any movement aimed at the betterment of the town, the pupils, or the schools."

Contracts of this type or any other provisions which limit teachers in their natural rights are *ultra vires*. Boards of education do not have powers to prescribe rules and regulations which invade the natural inherent liberty of a human being as an American citizen.

In connection with such contracts, it is worth while to quote from a decision of the United States Supreme Court:

"The spirit of American liberty and toleration is the disposition to allow each person to live his own life in his own way, unhampered by unreasonable and arbitrary restrictions.

"Liberty not merely denotes freedom from bodily restraint, but also the right of the individual to contract, to engage in any of the common occupations of life, to acquire useful knowledge, to marry, to establish a home and bring up children, to worship God according to the dictates of his own conscience, and generally to enjoy these privileges long recognized at common law as essential to the orderly pursuit of happiness of free men.

"Liberty cannot be interfered with under the guise of protecting the public interest by legislative action which is arbitrary or without reasonable relation to some purpose within the competency of the state to effect."

Meyers v. St. of Nebraska, 262 U.S. 392-412.

### ABOLITION OF TEACHING POSITIONS

The general rule in respect to the abolition of any position is that, if a teacher has been employed for a definite term or a definite period of time, such as one year, a school board cannot annul the contract by closing the school. Neither has it the power to abolish the department or position in which the teacher was engaged to teach. The rule of tenure is somewhat different. Classes of positions may be abolished under the tenure act. There seems to be some confusion in this respect where the tenure would imply that a teacher is employed for an entire year. If the interpretation of the tenure act is a contract for one year, then the abolition of the position must take place at the termination of the school year for which the teacher was employed. Abolition of the position in the middle of the school year would constitute an illegal dismissal. Courts have interpreted tenure to mean the right of employment for a period of one year and the right to have the employment renewed if the teacher has complied with the conditions of the statute. In other words, the permanent tenure statutes are intended to regulate the dismissal of

teachers for causes other than personal reasons of the school board or superintendent.

Hornbeck v. State, 33 Ind. App. 609, 71 N. E. 916.
School Town of Milford v. Ziegler, 1 Ind. App. 138; 27 N. E. 303.
Funston v. District School Board, 130 Oregon 82, 278 P. 1075, 63 A. L. R. 1410.
Cusack v. New York Board of Education, 174 N. E. 136; 66 N. E. 677.
Fidler v. Board of Trustees, 296 P. 912.
Bates v. Board of Education, 139 Cal. 145; 72 P. 907.

### Suspension and Expulsion

The misconduct of a parent in a school may result in the suspension and expulsion of a child. The right of a child to attend school is dependent upon the good conduct of the parent as well as the child. Both must submit to the reasonable rules and regulations of the school and the parent must conduct himself in such a way as not to destroy the influence and authority of the school management over the children. The court has held that any act of disorder in the schoolroom calculated to bring into contempt the authority of the school and teacher should be met with punishment calculated to impress the pupils with the importance of obedience and respect to constituted authority. Children are too much disposed naturally to look with contempt upon authority and parents should be restrained from encouraging this tendency.

Where a mother enters a school and creates a disturbance in States where the sole power to control children is invested in the father, the mother's misconduct is that of the father, since the legal personality of the wife at common law is merged into that of her husband. Her misconduct is his misconduct.

Board of Education of Cartersville v. Purse et al., 101 Ga. 422, 28 S. E. 896, 41 L. R. A. 593.

*May a child be punished because his parent refuses to sign his report card?*

Where there is a rule that a monthly report card be sent home to the parent for the parent's signature and returned, the teacher may insist upon the card being signed. A refusal by a parent in such a case to sign a card is directly injurious to the well-being of the school. The child may be punished by suspension until the parent complies with the request, provided that the school board has power to make such rules and regulations as are thought needful for the government of the schools, and the board has made such a rule.

Bourne et al. v. State ex rel. Taylor, 35 Neb. 1, 52 N. W. 710.

# Others Say

**Floyd E. Harshman**

TENTH ANNUAL JUNIOR-HIGH-SCHOOL CONFERENCE AT NEW YORK UNIVERSITY, APRIL 13-14

The general theme selected for the Tenth Annual Junior-High-School Conference is "The Teacher as a Person in the New Era." Such a subject allows a great many interpretations, yet it possesses considerable novelty, for we are not accustomed to think about teachers as persons. In educational meetings we have talked endlessly about the school and its problems, the students, the parents, the curriculum and methods. We have sometimes discussed the child as a person, and a fair number of our conferences have been child centered. But the Junior-High-School Conference this year will be teacher centered. We are borrowing the spotlight for the teacher. We shall, of course, have a great deal to say about these other matters, but in most cases they will be mentioned incidentally. Our purpose is to rediscover the teacher as a person, to emphasize the fundamental importance of the varied factors that are extra-classroom and yet bear a relationship to the person's efficiency as a teacher.

We have improved our concept of the nature of learning by giving critical attention to the whole child; now we are attempting to discover some facts about teaching by considering the whole teacher. If there are some persons who have two distinct personalities, one for the classroom and one for their private activities, there are a lot more who are better persons for being better teachers, or dull teachers because they are commonplace individuals, uninspired and uninspiring. It is only a matter of time until we shall have a triply distilled objective proof of all this, with a fine positive $r$ to show the relationship between the teacher's extraschool activities and the number of students he has coached successfully for the academic high hurdles. But until the evidence is available, it will be interesting and profitable to speculate on the matter informally, and to consider some of its aspects that the objective measurements will probably ignore.

The junior-high-school movement, there is reason to say, is in a critical position today. If it had as its principal characteristic some feature which would allow a large reduction in the costs of public education, it would be spreading like wildfire. But it has nothing of the kind to offer. So far as immediate outlay is concerned, it usually costs more to run a bona-fide 6-3-3 system than the traditional one. The junior-high-school movement is on the defensive, therefore, and it will stop growing altogether if it cannot muster proof that the 6-3-3 plan is worth the extra cost. The proof, if it can be organized to convince even the impartial members of the great jury, will necessarily be based on the fact that the junior high school provides in a superior way for the natural needs of early adolescents by furnishing them a rich variety of interesting and profitable experiences, by giving them as their companions in these experiences men and women who are vivid, dynamic, vital personalities, who have themselves learned how to live abundantly. In the degree that junior-high-school teachers have these qualities they are able to enliven boys and girls, to stimulate and inspire them, to guide and direct them. They cannot give what they do not have, and if they have seen life only through the pages of textbooks, they are poorly equipped to coach young people for active living in a shifting, seething, chaotic world. We are asking, then, who are our teachers? Never mind what degrees they have or what examinations they have passed—where have they been? What have they done and what are they doing? What can they make? What kinds of persons are they? And if we knew the answers to all these questions, we would have a measure of the junior high schools.

IS THERE A SURPLUS OF TEACHERS?

A recent Government report states that two hundred thousand certificated teachers in the United States are without jobs. Early in the school year President Roosevelt said: "We have today a large surplus of so-called qualified teachers."

Many people read thus far but no farther and conclude that too much money is being expended on teacher-training institutions. Two other important conditions need to be considered along with the statements of the first paragraph. (1) To reduce expenses more pupils are being taught this year and by fewer teachers. Classes of fifty or more have become the common practice. If these were reduced to satisfactory conditions for instructions—twenty to twenty-five to a class—so that the teacher could legitimately assume real responsibility for the progress of each pupil or know why no progress was made, the two hundred thousand surplus would be reduced to a negligible figure. In the commercial world it is the practice to take on employees as business expands; the schools have been forced to operate a rapidly expanding business with a vastly decreased force.

(2) The President did not say there is a surplus of *qualified* teachers. A few years ago the schools could not get a sufficient number of qualified teachers. They took what they could get. Partially trained teachers were put into teaching jobs and gradually worked into permanent teaching positions. Some of these have since made the preparation and adjustments and are now creditable members of the profession. Others have done nothing but hold their jobs and still hold them by tolerance or political preference. There is always a surplus of such teachers just as there is always a surplus of shyster lawyers, quack doctors, and profane teachers. This is the time to set higher standards. When it is necessary to be a university graduate to get a job as a filling-station attendant is no time for the schools to accept or retain unqualified teachers. Give the deficient ones now in the profession a limited time to make suitable preparation for the work they are teaching but demand of *all new* teachers at least four years of recognized college work, which should include a majority of subject-matter courses but sufficient professional courses and practice experience to ensure success as an instructor and professional pride. Now is the time to stop assigning the extra algebra class to the foreign-language teacher, geography to the athletic coach, and general science to any sort of teacher assisted by the janitor. *School Science and Mathematics,* January 1934.

### HIGH-SCHOOL PUPILS MAKE OWN CODE

A splendid statement of a code for pupils, in the spirit of the NRA, has been made by thirty-three pupils in grade 11A at Collinwood High School. It reads as follows:

"Since times are constantly changing, we shall try to prepare ourselves for whatever may confront us to keep abreast of the times and to watch for opportunities.

"Because of the constant shortening of the working day, we shall train ourselves to the proper use of our leisure time with sports, art, dramatics, or reading.

"In order to attain the highest standard of efficiency, we shall train ourselves to be thrifty, industrious, and conscientious.

"Because the schools are one of the largest economic burdens upon our city, we shall do everything in our power to reduce expenses by attending honor study halls, by helping with hall guard duty, by being careful in the use of school property, and by passing in our studies, as failing pupils are burdens on the taxpayers.

"If possible we shall buy our own books, pay our school fees, support our athletic teams, or school paper, and the projects of our fellow students.

"That we may live harmoniously with other people, we shall study conditions in all parts of the world and seek all sides of a dispute before we draw a conclusion." *Ohio Schools,* January 1934.

### HAVE THE SCHOOLS BEEN EXPLOITED?

Dr. L. D. Coffman, president of the University of Minnesota, is of the belief that much of the criticism being directed against schools and educational institutions generally comes from those condemning fads and frills which found their way into the curricula because of the demands of these same critics. Schools began to teach safety and thrift at the instigation of groups now loudest in their condemnation of the cost of such subjects, Dr. Coffman believes. The *St. Paul* (Minnesota) *News* reports: "There is a good deal of truth to what Dr. Coffman says. Certainly the fair-minded critic will admit that the schools have been exploited along with most of our other institutions for the profit of individuals and groups. They have been commercialized to some extent but, now that there is no further money but only expense in keeping up these additional activities, the demand grows for their elimination to bring about economy. . . . Now, if ever, more, not less, education is required if the people are to rule and steer a safe course through the complexities of our uncertain times."

### EXCERPTS FROM FEDERAL BULLETINS

The school term has been reduced in length in one out of every four cities. Kindergartens have been reduced or eliminated in 80 cities out of 404 reporting. Playground activity has been seriously curtailed in 85 out of 502 cities. The supply of free textbooks has been reduced in 106 cities and new books eliminated altogether in 6 of 604 cities which replied. School supplies have suffered greatly, having been reduced in nearly half of all the cities reporting. Night and adult classes have been reduced or eliminated in 113 cities of 266. Summer schools have been seriously affected in 99 cities of 240.

"It is evident from this study," declares Commissioner Zook, "that schools have undertaken heroic measures to adapt themselves to the exigencies of the depression. Whether these reductions represent economies or whether they represent a reduction in the services which schools should render to children is an open question. Some of the reduction has come from true economies in which approximately equivalent service is provided at lower cost. On the other hand, the reductions represent in part a lowering of the standards of education in American cities."

Other studies indicate that the current expense

for operating American schools, both city and rural, in 1933-1934 is approximately $368,000,000 less than in 1930.

* * *

"It is more important to prepare for life and living than for the mere making of a living," declares Dr. James F. Rogers, Federal Office of Education specialist in health education, stressing the need for more hygiene and health instruction in high schools throughout the United States.

"Teaching health will be more effective," Dr. Rogers's study suggests, "if the instruction is not incidental to any other subject, and if the teacher is fully prepared as for the teaching of English or mathematics. There should be no stinting of teaching materials either," Dr. Rogers continues, "for these should result in more good than the costly laboratory outfits installed for less intimate sciences."

The new Office of Education pamphlet traces the struggle of hygiene for a place in the high-school program, and presents an outline of the present courses of study, and suggestions for coördination and correlation of health work.

* * *

Regional associations of United States colleges and high schools have voted their support of a proposed plan to study high-school standards and accrediting procedures. This action practically assures the launching of such a nation-wide study early in 1934, the Federal Office of Education announced today.

The regional associations which have thus approved the survey represent 4,600 of America's largest and most influential high schools in 47 States, the District of Columbia, Alaska, and the Canal Zone. They are the North Central Association of Colleges and Secondary Schools, New England Association of Colleges and Secondary Schools, Middle States Association of Colleges and Secondary Schools, and the Northwest Association of Secondary and Higher Schools. The four associations first mentioned have already appropriated $4,500 towards planning the study and getting it under way.

### MUSIC SUPERVISORS NATIONAL CONFERENCE

The fourth biennial convention of the Music Supervisors National Conference to be held in Chicago, April 8-13, 1934, will have as its major theme "Music in the Life of the Nation," with emphasis on the problems and needs of the time, particularly stressing the relation of music and music education to the leisure-time program now being developed.

President Walter H. Butterfield of Providence, Rhode Island, has announced an unusually strong program, with speakers of international renown and a varied schedule of festivals, concerts, and demonstrations. A feature of outstanding importance will be the appearance of the National Supervisors Chorus of five hundred selected voices conducted by Dr. Hollis Dann. Enrollments for this chorus have come from practically every State. The daily rehearsals of the chorus prior to the concert will be another feature, serving as "clinics" of conducting and interpretation, etc., for all who wish to attend as auditors.

### THE UNIVERSITY OF CHICAGO CONFERENCE ON BUSINESS EDUCATION

Educators in general, and business educators in particular are becoming increasingly interested in the abolition of economic illiteracy. One of the neglected fields of education has been the adequate training of the consumer. Because this specific problem is of vital interest to business educators, it was decided to make this the central theme of the second Conference on Business Education to be held at the School of Business of the University of Chicago on June 27 and 28.

The Conference will be concerned with two major aspects of the problem. The first section, which will include the contributions of those who have made important studies concerning the position of the consumer, will give the educator a basis for obtaining actual information available in the field; the second section will be devoted to the type of education which the consumer is now receiving in and out of school and to a discussion of how some of the more recently developed materials in consumer education may actually be woven into the curriculum.

# Book Reviews

*Principles of Social Science,* by T. R. Williamson and E. B. Wesley. Boston: D. C. Heath and Company, 1932, 561 pages.

This text constitutes a survey of problems in American democracy. It looks on these problems as unsolved and for the present unsolvable. It strives to arouse in pupils a desire and an ability to grapple with problems for which there is no answer book. Even "solved" problems, the student is assured, provide him with other problems for which he and all other intelligent Americans should seek tentative answers. The authors have made a praiseworthy attempt in this volume to replace our educational heritage of facts and answers with practice in social scientific thinking which is impossible if answers are known.

*The Organization and Activities of the National Education Association. A Case Study in Educational Sociology,* by Erwin S. Selle. New York: Bureau of Publications, Teachers College, Columbia University, 1932, 180 pages, $1.75.

The National Education Association is obviously a special interest group of great size and potential importance. The investigator has attempted to view the association as a whole, analyzing its organization, its leadership, its activities and objectives, its relationship to other groups, and its methods of control: conflicts within and without the group, group coöperations, and associational control. He concludes that both the general sessions of the N.E.A. and the *Journal* are used to communicate to members and to the general public those policies which the leaders approve. Conciliation in anticipation of conflict typifies the Association's procedure in relation to its natural opponents, except in the case of attacks on it or on its prominent members. Its most effective positive action is taken through coöperations with other groups the objectives of which happen momentarily or permanently to coincide with those of the leaders.

A most interesting section on the Association and the World War wherein is shown the shift in policy from international and pacifistic mindedness to nationalistic and narrowly patriotic ideals, reflecting the modes of the general population.

*Private Secondary Education in the Association of Colleges and Secondary Schools of the Southern States,* by Rothwell Wilcox. Baltimore: The Johns Hopkins Press, 1932, 151 pages, $2.00.

In the States of the Southern Association, the private school tradition (military, church, and "social" school stereotypes) have been far stronger than in the northern and western States, if we except the recent Roman Catholic parochial-school movement of the North. Seventeen of 163 "member" private schools of the South were founded before 1850—four of them in the eighteenth century. Seventy-two of the schools were founded between 1850 and 1899, sixty-four since 1900.

Dr. Wilcox presents in this volume a status study of these schools, presenting the conventional information regarding the schools, the pupils, the teachers, records, the library, the buildings, endowments, State approvals, and the like. He then devotes chapters to health problems, efficiency of instruction, home-relations guidance, citizenship, leisure time, character, and religious training, and special problems and claims of the private school.

These chapters lead to the conclusion that the problems of public and of private schools are not the same, that the latter schools should find greater representation in and obtain better leadership from the Southern Association. Such leadership should not concern itself too much with the application of uniform standards to all types of schools, or to failure rates in colleges of graduates from these schools, but to the educational opportunities involved in the schools themselves.

*A Primer of the New Deal,* by E. E. Lewis and others. Columbus: American Education Press, Inc., 64 pages.

A very timely interpretation of the governmental revolution known as "The New Deal" is made available in pamphlet form. The essential accuracy of its text, the adequacy of its diagrams, the clearness of statement, and the effective illustrations combine to make this booklet a most serviceable and valuable aid for alert teachers in helping their pupils and themselves to get a clear picture of a complex instrumentation of a very comprehensive social program.

In an earlier issue, we have commended the American Education Press for their publication of the Modern Problem Booklets (twenty pamphlets $2.00 per set). We urge all teachers who find the fragmentary newspaper comments on phases of the New Deal confusing to treat themselves to this inexpensive *Primer.*

*A New Social Order,* by WALTER LIPPMANN, No. 25; *Work Camps for America,* by OSGOOD NICHOLS and COMSTOCK GLASER, No. 27; *The Farmer Is Doomed,* by LOUIS M. HACKER, No. 28; *A Call to the Teachers of the Nation,* Committee of the Progressive Association on Social and Economic Problems, No. 30; *Instead of Dictatorship,* by HENRY HAZLITT, No. 31. New York: The John Day Company, 1933, 25 cents each.

Like their predecessors of this series of pamphlets, these thirty-two-page booklets will prove of the greatest value to all alert teachers and other citizens. Each presents the opinions of persons who are both well equipped and bold enough to speak positively about social affairs—governmental, economic, and educational. So vigorous are the statements of opinion that the reader is almost compelled to create or reconstruct his own beliefs.

No. 30 is of peculiar interest to educators. It is a follow-up of the challenging addresses of Dr. Counts which formed the basis of an earlier pamphlet of this series, *Dare the Schools Build a New Social Order?* This *Call to the Teachers of the Nation* is the product of a carefully selected committee of forward-looking, liberal activists. It surveys the social-economic scene and its educational counterpart in such stirring language that teachers who read it must be stirred from their lethargy. By comparing the traditions which are associated with the names of Hamilton and of Jefferson they show the origins of the conflicts which characterize social thinking.

Teachers themselves, the committee points out, personify some sets of values, some social philosophies, both in what and how they teach and in their own attitudes and behavior. Hence, if they are to fulfill their educational mission, they must become socially intelligent, vigorously interested, and actively participatory in accelerating the social changes that look towards a new order. To this end they should align themselves with their aggressive and progressive colleagues within educational and civic organizations who individually and collectively are concerned to understand our social disorder and to seek ways for resolving our social confusion.

*How Workers Find Jobs,* by DOROTHEA DESCHWEINITZ. Philadelphia: University of Pennsylvania Press, 1932, xvi+199 pages, $2.50.

The author reports on the results of a study of four thousand hosiery workers in Philadelphia. Job hunting has been a grim national pastime ever since the industrial revolution gained headway. The attempt to substitute intelligently controlled employment bureaus for chance and friendly interventions have seldom been successful from the point of view of the potential worker, however valuable personnel officers may have been for the employers. Valuable suggestions for more intelligent procedures are offered in Chapter VI of this volume.

*Survey Data Book for Public School Janitorial-Engineering Service.* N. L. ENGELHARDT, CHARLES E. REEVES, and GEORGE F. WOMRATH. New York: Bureau of Publications, Teachers College, Columbia University, 1932, 75 pages.

The authors have provided school authorities with a convenient and objective means of appraising the janitorial-engineering service of a school. The standards here presented are taken from the authors' *Standards for the Public-School Janitorial Service.* The items are grouped with fixed values for each under sixteen headings, such that perfect scores would total 1,000 points. The standards are in the form of positive statements which guide the scorer in assigning values. The use of this data book by principals and janitors should serve both to improve school housekeeping and to indicate ways in which it can be most economically done.

*Content of Student-Teaching Courses Designed for the Training of Secondary Teachers in State Teachers College,* by JOHN GARLAND FLOWERS. New York: Bureau of Publications, Teachers College, Columbia University, 1932, vii+81 pages, $1.50.

In this study Dr. Flowers has surveyed the organizations of institutions which prepare secondary-school teachers, the time allotted to the various activities, the relative value of each activity, and the nature of the courses of training. Such evaluation of these elements as is undertaken is based on the opinions of those who are concerned with the organization, administration, and teaching of teacher-training institutions.

The study thus exemplifies the naïve attitude of many who make status studies and then draw conclusions concerning what ought to be from what is, plus the opinions of those who are now engaged with changing what is into what they think ought to be. Unconsciously, the investigator merely

chases himself around in a circle carting his load of "objective" data with him.

It may be true that activities involved in class instruction, management, and control, and the student's part in extraclass and community activities and his personal and professional growth should be given more important places in subject-matter classes in teachers colleges. The present reviewer believes that they should. But neither his thinking so nor the respondents' thinking so nor the investigator's thinking so makes it true.

A status study should stick to status. Opinions of those involved in the status are a part of the status and should be so reported. The clear presentation of status may furnish groundwork for the practical administrator or reformer, giving him a clear picture of the inertias and tolerances and experimental attitudes which must be taken into account.

Status studies furnish no bases whatever for the reforms, however, unless one is willing to premise the assumption that whatever is, is right. Since Dr. Flowers is obviously unwilling to make such an assumption, he sets forth seven pages of recommendations for preparation for teachers for future high schools which bear little relation to his status study, instead they draw their confirmation and justification from Learned and Bagley's proposals of 1917 and from Inglis, 1919, Koos, 1927, and Davis, 1924.

*Some Effects of Incentives. A Study of Individual Differences in Rivalry*, by JOSEPH ZUBIN. New York: Bureau of Publications, Teachers College, Columbia University, viii+60 pages, $1.50.

In our attempts to study educational products by means of test performances and by the intercorrelations of different tests, we have had either to assume that the children tested were the same neuromental-muscular creatures under the varying conditions of time and place and motive of the various tests, or that large numbers of children would make for the reliability of results by offsetting the variations. Dr. Zubin has taken one aspect of one variable, that of rivalry as an incentive, to discover how potent a motive power it is in classroom situations and whether or not it is relatively constant for a given individual.

He finds, as might be expected, that rivalry does act as an incentive, that it does improve test performances but not very consistently, that it was more effective in higher grades than in lower grades and especially among accelerated children! If the investigator is aware of the social tragedy implied in his findings he gives no evidence of it.

# The Clearing Houses

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